BUNTING®

GLOBAL. MAGNETIC. FORCE.™

Recycling

Automotive and Metals, Plastics and Film, Tires, Municipal, E-Scrap, and Wood

About BUNTING

Bunting is an industry leader in the design, manufacture, and sales of cutting-edge magnetic equipment used in applications such as magnetic separation, metal detection, conveyor systems, custom manufactured magnets, and more. All of the products we sell are custom-designed by our engineering team. We work with customers to determine their exact needs and develop a product that will perfectly suit the challenges of the industry they are working in and the materials they are handling, as well as being designed to fit within the existing layout of the customer's facility.

Since 1959, Bunting has been a family-owned, family-operated company. Headquartered in Newton, KS, Bunting currently has multiple branches within the United States as well as abroad in the United Kingdom. We are committed to upholding the all-American values of innovation, dedication, and hard work that Bunting was founded upon sixty years ago.

As technology continues to advance across every industry, Bunting remains committed to integrating new technology into our products, creating solutions that address modern industry challenges, and continuing to expand our domestic and international reach.

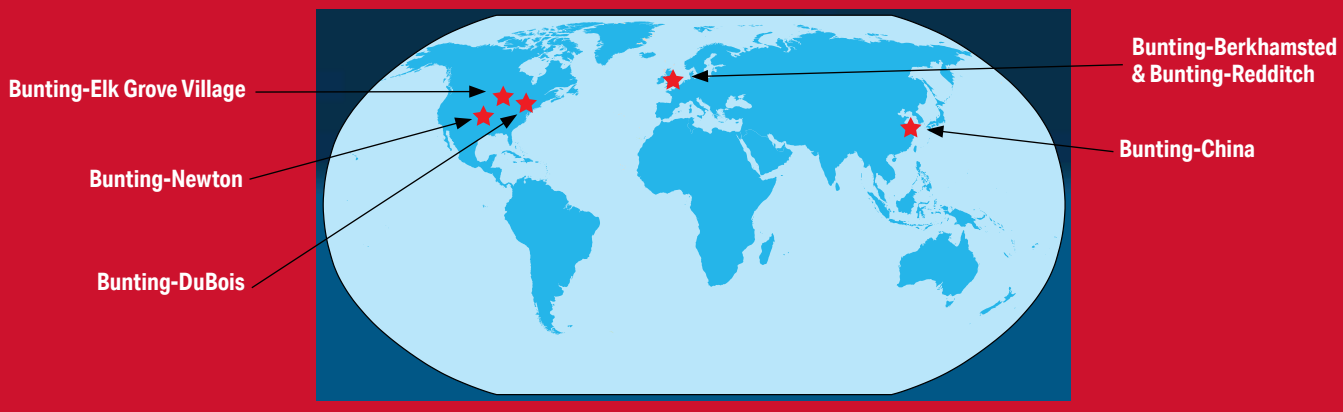
Bunting-Newton primarily focuses on magnetic equipment for magnetic separation and metal detection applications. Newton, Kansas has served as the company's headquarters since 1979. Here, we design and manufacture magnetic separation, metal detection and material handling equipment as well as a complete line of printing cylinders. With a team of engineers using world-class, computer-aided design equipment, we can customize and develop products to fit any application or production line.

Bunting-DuBois has a unique role as it is the only North American manufacturer of compression bonded, injection molded, and hybrid magnets used in custom designed permanent magnet assemblies. These assemblies are used in the military, aerospace, automotive, and other industrial commercial industries.

Bunting-Elk Grove Village is home to the company's Magnet Materials division. Bunting-Elk Grove Village provides the largest online selection of permanent magnets and magnetic equipment, with all in-stock items able to be shipped within 24 hours of an order being placed on its website, BuyMagnets.com.

Bunting-Berkhamsted provides total magnetic solutions—including individual magnets and magnetic sub-assemblies to various industries throughout Europe and the UK. Bunting-Berkhmasted also manages E-magnets.com, where customers may purchase a wide variety of commonly used magnets via the web.

Bunting-Redditch provides a complete line of magnetic separation, and metal detection equipment to industries across the globe. Bunting-Redditch has one of the largest selections of permanent and electro-magnetic separation equipment, and provides innovative magnetic solutions for metal reclamation, tramp metal protection, and high intensity mineral separation. All designed and manufactured at the Redditch location.



Bunting®

Magnetic Technology for All Industries

The unique benefits of magnetic technology can be utilized across a wide range of applications, and Bunting is always looking to the future regarding new challenges that present themselves in the many industries we work with. Bunting engineers are constantly working to develop new technologies and improve upon our existing product lines. Bunting custom designs, manufactures, and distributes a broad selection of conveyors, magnetic separation, and metal detectors for the following general sectors:

FOOD AND PHARMACEUTICALS

PLASTICS

RECYCLING

AUTO SHREDDING

AGGREGATE, MINING, AND MINERALS

TEXTILES

METAL STAMPING & FABRICATING

PRINTING, DECORATING AND CONVERTING

CERAMICS

CUSTOM MAGNETS AND MAGNETIC ASSEMBLIES

STOCK MAGNETS & MAGNETIC TOOLS

Across all the industries Bunting works with, our commitment to providing quality products and customer service remains consistent. Bunting enthusiastically offers custom designed applications for customers bringing unique challenges to the table, and we take pride in working individually with each customer in order to provide the best product possible.

Contents

Recycling Equipment

Separation, Detection, and Conveying Equipment for the Recycling Industries

Bunting provides a wide range of magnetic separation, metal detection, and conveying equipment to help customers working in the recycling industries. Bunting's magnetic separation equipment removes metal contaminants from material lines, allowing for a higher purity product while protecting the existing equipment in your facility. Bunting's metal detection equipment is able to detect and reject ferrous and non-ferrous metal hazards within the product flow, providing comprehensive metal removal. Our magnetic and non-magnetic conveyors and conveyor components assist customers with efficiently moving material throughout their facilities. All of our equipment is designed to be low-maintenance and operator friendly to increase efficiency and decrease downtime in your operations.

Magnetic separation utilizes powerful magnets to pull out ferrous metal contaminants from a processing line, trapping them against the face of the magnet and ensuring they cannot re-enter the material stream. The strength of the magnetic field means that continued material flow, no matter how rapid, will not be able to dislodge the ferrous material from where it has been initially trapped. Bunting offers magnetic separation equipment suitable for gravity free-fall systems, in-line systems, and liquid processing systems.

Metal detection systems generate an electromagnetic field that material is directed through, sensing and rejecting any ferrous or non-ferrous metal that is hidden within the material. In situations where a magnetic separator may be unable to remove a non-ferrous contaminant, such as aluminum, a metal detector is able to sense this metal and remove the contaminated section of material from the greater flow of operations. Bunting offers metal detection equipment suitable for gravity free-fall, conveyed, pneumatic, and pipeline applications, with three different packages available for electronics customization.

Bunting offers conveyor systems and conveyor system parts in order to provide efficient transport of various recycled materials throughout your facility. Bunting's magnetic conveyors and accessory parts offer an efficient, low-maintenance answer to moving high volumes of material quickly and safely in any environment, no matter how tough.

All of our products are custom designed according to the customer's specifications, allowing for them to integrate seamlessly into the existing production environment. Our team of engineers works with each customer to deliver a personalized piece of equipment with the physical dimensions to best fit your space and the magnetic components that best suit your separation, detection, and conveying needs.

CROSSBELT™ SEPARATION CONVEYOR

Auto recycling facility

Bunting® offers the most respected magnetic CrossBelt Separation Conveyor in the recycling industry to maximize product purity. Its distinct design amplifies magnetic strength and reach-out for effective metal removal whether mounted at the end of a conveyor or over the belt mid-stream. The all-stainless steel frame minimizes ferrous scrap sticking to the side frames while the UHMW belt skirting prevents the metal from sticking in between the belt and magnet.

The CrossBelt Separation Conveyor separates ferrous metal from non-ferrous products and is the ideal means of cleaning the product stream. It also protects against costly knife damage, maximizes product purification, and offers equipment protection on shredded material conveyed between shredders and granulators.

Select Features

- Four deep-reach magnetic strength designs optimize separation for belt speed, product density & burden depth
- Stainless steel frames eliminate side frame magnetization and collection of stray metal.
- Available with ceramic magnets or high intensity rare earth neodymium magnets for maximum product purification
- UHMW belt skirting prevents material from getting between magnet and belt
- Abrasion-resistant SBR (Styrene Butadiene Rubber) or urethane coated belt

LIGHTWEIGHT CROSSBELT SEPARATION CONVEYOR

Bunting Lightweight CrossBelt Separation Conveyors are designed for mounting on mobile shredders, cantilevered conveyors and are available with the same standard features as the larger units. These units come with smaller lighter weight pulleys, frames, optional hydraulic drives, and optional rare earth magnets.

Select Features

- Lightweight design for extending out on discharge conveyors.
- Optional high intensity neodymium rare earth magnetic fields for lighter weight units.
- Optional end shields, guarding and tramp metal chutes.
- Custom designed support structures.

CBS MAX Crossbelt™ Separator

The CBS Max Crossbelt Separator is Bunting's newest model of Heavy-Duty Crossbelt Magnetic Separator. It has been designed to address the unique needs of recycling applications, resulting in a heavy-duty, durable unit. These units are designed for extended life and toughness, and are meant to be out making you money working to pull steel on your line—not sitting in your maintenance shop waiting on repair. No matter how nasty, abusive, and rugged your recycling application is, it's no match for the new CBS MAX.

Select Features:

- Powerful permanent magnets deliver the highest level of separation, removing ferrous metals and leaving you with a high-purity end product.
- Available with 4 magnetic widths for extended reach-out requirements.
- Oversized 16-inch diameter heavy-duty stainless steel pulleys that won't become magnetized with use.
- Oversized shafts utilize standard off the shelf heavy-duty oversized dodge bearings.
- Offers one of the toughest cut-resistant belts in the recycling industry. PVC 200 combined with a ¼ top cover of tough, cut-resistant urethane and urethane cleats to efficiently pull off separated ferrous metal while minimizing the likelihood of cut damage.
- Complete stainless steel frames designed not to collect ferrous scrap on their sides.
- Shipped with a 3-horsepower Nord Gear motor for commonality of stocking spare parts, set to run at approximately 300-fpm to discharge ferrous metals.
- Top debris covers are provided to protect belt from the elements and protect unit from potential damage caused by overhead debris falling onto it.
- Side access door ports enable convenient maintenance and tramp removal if needed.
- Extra wide and thick UHMW wings to seal off magnets.
- Fully customizable to suit your exact needs and integrate perfectly with your existing equipment.

Installation Options

While the most common mounting position for a crossbelt magnet is across the belt, inline models are also available which maximize magnet efficiency due to the material already being airborne.

Oil Cooled Electro Overband Magnetic Separator

A powerful Overband Separator for deep & heavy ferrous extraction

The Heavy-Duty Electro Overband Separator is the most powerful in the Bunting line, and available in sizes to fit any recycling operation. Due to its high magnetic strength, this Overband Separator is able to work at an increased operating gap, enabling it to extract ferrous from the deepest troughed conveyors. Electro Overband Separators are commonly positioned either inline over the head pulley, or across conveyor belts as little as 24" wide and up to 84" wide. For even larger belt widths, our engineers can custom design and add additional support structures as required.

To give the Overband Separator a longer belt life (especially when handling abrasive materials) an optional armored belt is available. In addition, heat-resistant belting is available to allow the heavy-duty Overband Separator to operate at higher ambient temperatures.

ElectroMax Air Cooled Overband Magnetic Separator

The new ElectroMax Overband Magnet is 185% stronger and 25% lighter than equivalent permanent overband magnets. The ElectroMax provides customers with a smaller, lighter and more compact system without any compromise in separation performance.

The ElectroMax Overband Magnet is ideally suited for applications where there are weight and size suspension limitations. It provides additional magnetic power for more difficult tramp metal separation applications, achieving a boosted separation force while still remaining compact and light. The electromagnetic coil produces a high gradient magnetic field that is up to 185% more powerful than comparable permanent magnetic equipment. This enables the removal and separation of smaller and more challenging shapes of iron contaminants often missed by other magnetic separation systems. The additional magnetic strength also aids the lifting and removal of heavier tramp ferrous metals.

General Benefits of ElectroMax Overband Magnetic Separators:

- Half the weight of an oil cooled magnet.
- Lower profile 460mm (18.25"), than an oil cooled magnet.
- Substantially less maintenance than an oil cooled magnet.
- Air cooled transformer rectifier included.
- Armor cleated belt optional.
- Durable construction ensures longevity of equipment and keeps maintenance to a minimum.
- Dual-pulley system drives self-cleaning belt, reducing overall weight and size of equipment.
- Air cooling system eliminates need for any oil or conservator tanks.
- Switching off power to the ElectroMax deactivates its magnetic field, allowing for easier, more convenient maintenance in between operations.
- Four standard models are designed for suspension at a height of 450mm (18") over conveyors with widths of 1m (39"), 1.2m (48"), 1.4m (55") and 1.5m (59").
- Average comparisons between the new range of ElectroMax equipment and the permanent overband equivalents show a 185% increase in magnetic power matched by a weight reduction of 25%.

SSSC® Stainless Steel Separation Conveyor™

REMOVE UP TO 94% OF LARGE FRACTION STAINLESS STEEL

After developing the HISC High Intensity Separation Conveyor to separate smaller fraction stainless steel, Bunting Magnetics Co. engineers took on an even tougher challenge: Develop a machine to separate even larger fractions of stainless steel. The patented core design in our SSSC Stainless Steel Separation Conveyor enables the conveyor to attract, hold and extract irregular stainless steel metals and paramagnetic chips up to an impressive 127mm - 203mm (5" - 8") in size – the largest in the recycling industry.

These large pieces of work-hardened 300 series stainless steel – materials once thought impossible to separate – are easily removed thanks to extremely high gauss fields, revolutionary patented configuration of high-strength neodymium rare earth magnets in the core design and superior industry-leading design technology. Bunting engineers can test specific material to calculate proper sizing and construction.

Patented Air Knife (optional):
An optional air knife gently blows ferrous foam, dust and cloth from your material to purify the stainless steel stream.

Vibratory Feeder (optional):

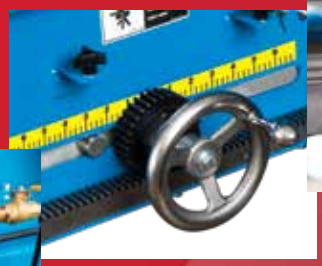
- Provides uniform single-layer feeding for maximum separation efficiency
- Customizable width and length to match applications
- Power supply and isolator designed to match flow requirements
- Stainless steel fabrication
- Comes complete with controls and can be integrated into existing systems
- Optional AR Steel Liners

Select Features

- Patented high intensity deeper reach magnetic circuit.
- 200mm (8") diameter pulleys for small and mid fraction stainless steel extraction.
- 300mm (12") diameter pulleys for mid and large fraction stainless steel extraction.
- Conveyor belt widths of 600 - 2000mm (24" - 78").
- Heavy-duty formed frames with forklift lifting slots.
- Heavy-duty rolled over belt flexwall edge sideguards to contain product flow.
- Tough 2-ply urethane belts with 30mm (1 1/8") flexwalls.
- Varying operating speeds depending on product stream.
- Variable frequency drives permit optimal separation.
- Optional patented air knife to help clean & purify stainless steel separation.
- 200 mm (8") diameter capacity approx. 2,000 kg/hr/meter width (1,350 lbs/hr/ft width).
- 300 mm (12") diameter capacity approx. 4,200 kg/hr/meter width (2,850 lbs./hr/ft width).

Knurled Splitter Roller

Air Knife Regulator



Diverter Adjustment Wheel

Optional Air Knife

HISC® HIGH INTENSITY SEPARATION CONVEYOR™

REMOVE UP TO 98% OF SMALL FRACTION STAINLESS STEEL

Through Bunting® engineering design and Magnetic Finite Element Design software technology, you can attract, hold and extract paramagnetic work-hardened stainless steel metal and chips from your product stream. Recycled chopped wire, plastic flake, e-scrap and more can now be stainless steel-free with the HISC High Intensity Separation Conveyor.

The first of its kind in the industry, the HISC High Intensity Separation Conveyor incorporates extremely high gauss fields, neodymium rare earth magnets and a field-tested design to achieve maximum stainless steel separation and copper purification.

With the HISC, you can attract, hold and extract some of the weakest magnetic materials, including stainless steel needles, small computer screws, titanium chips, small stainless sheet metal from computer hard drives, tiny screws in plastic chips and green boards with attached chips. Bunting engineers can test specific material to calculate proper sizing and construction. The HISC can also be used for maximum purification of recycled tires, and crumb rubber.

> "In the business of metal recycling, our profitability depends on the volume of recovered product and the purity of that product. Bunting's High Intensity Separation Conveyor, and its unmatched ability to get stainless steel out of our mid-sized fraction, ensures we get the purity needed to sell to our domestic smelters."
>
> Kevin Gershow
> Gershow Recycling / Medford, NY

Cleated Belt

Diverter

Bearing Assembly

Optional Vibratory Feeder

Uniform single-layer feeding for maximum separation efficiency and purification.

- Customizable widths and lengths to match application requirements.
- Power supply and isolator designed to match flow requirements.
- Fabricated in either mild steel or with an abrasion resistant liner.
- Comes complete with controls and can be integrated into existing system.

Optional Splitter Chute

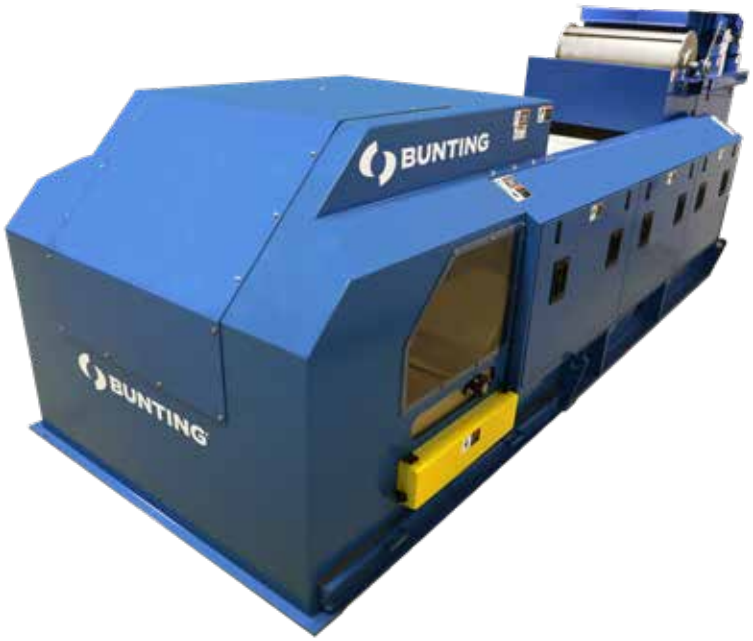
An adjustable splitter chute separates the stainless steel fraction from the non-magnetic material.

Select Features

- 100 (4") and 150mm (6") high intensity pulleys available.
  - 100mm (4") diameter for copper purification.
  - 150mm (6") diameter for cleaning ICW before chopping, small fraction stainless steel recovery and crumb rubber purification.
- Neodymium exposed pole design for maximum gauss intensity.
- Belt widths 300-1800mm (12" - 70").
- Heavy-duty formed frames with forklift lifting slots.
- Heavy-duty rolled over belt flexwall edge sideguards to contain product flow.
- Tough 2-ply urethane belts with 30mm (1-1/8") flexwalls and v-guide cleats on 300mm (12") centers.
- Operating speeds from 12-36 mpm (40-120fpm) depending on product stream.
- Variable frequency drives permit optimizing separation.
- Adjustable splitter chute divider to adjust purification split.

Eddy Current Separation Conveyors

Bunting's new High Intensity Eddy Current Separators are setting a new standard for the auto recycling, plastic PET and film, and ICW wire recovery industries. Designed with Magnetic Finite Element Design, Bunting's Eddy Current Separators optimize the magnetic field while maximizing the focal point and strength of the gauss intensity. The High Intensity Eddy Current Separator has been designed both magnetically and structurally to produce some of the highest repelling separation forces in the industry. It is ideal for separating and throwing smaller, conductive, non-ferrous materials, such as aluminum, copper, and brass. Bunting's unique assembly enhances the Eddy Current field intensity to achieve significantly improved separation of small metallic particles from plastics and other non-metallic particulate. The new High Intensity Eddy Current Separator has been designed to solve problems presented by the toughest applications.




Automatic Mode


Manual Mode


Test Mode


Belt Alignment


Status

Features:

- Bunting assembly enhances the Eddy Current field intensity for significantly improved separation of small metallic particles from plastics and other non-metallic particulate.
- Unique magnetic rotor design provides exceptionally strong gauss levels.
- Available in 1M, 1.5M, and 2M options.
- Optional vibratory feeder to provide uniform flow on the Eddy Current belt for better separation and neodymium high intensity drum separator at the infeed to pull out ferrous contamination before the Eddy Current.
- Optional hoods available depending on the size of material being run maximizes employee safety and features polycarbonate view windows for user convenience.
- Integrated slant sidewalls keep material where it is supposed to be and are made of rugged steel for durability as well as being completely removable for servicing and belt changes.
- Thermoplastic belt with polyurethane cover resists punctures and wear, resulting in fewer belt changes. Corrugated side walls fused to the belt increase capacity and seal the flow stream from getting into the conveyor, while hot welded PU cleats keep material moving where you want it.
- Rugged side panels reduce noise, improve cleanliness, and protect both the unit and the operator. Their detachable design allows for quick, easy servicing and belt changes.
- Adjustable splitter allows you to precisely adjust where the material division is to optimize sorting, and can easily be reset as material mix is changed, giving you total control. The splitter locks firmly in place so you can set it and leave it with peace of mind.
- Belt changes are quick and easy—our hydraulic system uses a pump and cylinders that raise the off drive side, so the belt can be slipped off the side of the conveyor to facilitate seamless and simple belt changes.

Eddy Current Separation Conveyor

The Eddy Current system consists of a short belt conveyor with its drive located at the return end. The ECS rotor, which is fitted at the discharge end of the conveyor, is constructed using a high-intensity rare earth (neodymium iron-boron) magnet system and sits inside a non-metallic rotor cover. The rotor, when spinning at high speeds, induces an electric current into conducting metals. This induced electric current produces a magnetic field, which opposes that of the rotor, repelling non-ferrous metals over a splitter plate. The remaining materials free-fall over the rotor, separating them from the repelled conductive particles.

The Bunting line of Eddy Current Separators (ECS) are advanced metal sorting machines used in areas such as Auto Shredder Recycling (ASR), Plastic PET and Film Recycling, Materials Recycling Facilities (MRF), Energy from Waste Plants (EfW), wood, skip waste, and glass recycling. These non-ferrous separators are increasingly used wherever separation of non-ferrous metals from a product stream can increase the value of the product stream or produce a cleaner material. Whether the end use is in recycling, waste reduction, raw material production or any other process where separation would prove beneficial.

HIGH INTENSITY EDDY CURRENT SEPARATORS

The new High Intensity Eccentric ECS units are specifically designed for the separation of materials with a wide range of sizes, which require high repelling forces. These High Intensity ECS units have a larger than normal magnetic pole count and are used for purification of materials, such as glass, plastic, ASR and wood chip. These top of the line Eddy Current units are built 1m-1.5m (39″-59″), and 2m (78″) wide systems.

R TYPE EDDY CURENT SEPARATORS

The R Type ECS fits in the Bunting ECS range between the High Intensity and the Can Sorter units. It is designed to be used in recycling applications where aluminum is to be removed for re-sale, such as dry and dumpster waste recycling at a size greater than 20mm (0.80″).

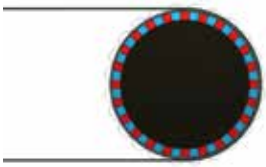
CAN SORTER EDDY CURRENT SEPARATORS

Can Sorter ECS units are designed for the separation of non-ferrous beverage cans from dry recyclable MRF materials. The Can Sorter ECS is a low-cost alternative to the large Eddy Current units, for applications that do not require higher specification machines. The Can Sorter is a simplistic and cost effective unit with pre-set belt and rotor type settings to provide optimum can separation.

Concentric vs. Eccentric Eddy Current Separators

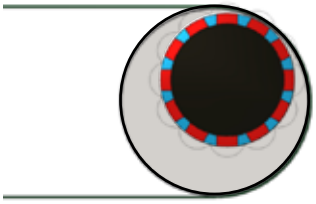
For applications that require separation of fine non-ferrous particles, Bunting manufactures an 'Eccentric' rotor. The specification and characteristics of this rotor arrangement allow for optimum separation of smaller particles such as shredded printed circuit boards, PET flake, and fine glass cullet.

Concentric rotors consist of an alternating pole Rare Earth magnet system, which completely fills the space available within the separation rotor drum. The magnet system rotates at high speed within a few millimeters of the outer shell surface generating very high 'eddy currents' on the surface resulting in very high repulsive forces.



Concentric rotors

Eccentric rotors differ in that the magnet rotor is of a smaller diameter than the outer shell, and is located in an eccentric position to the outer rotor drum. The magnet system is positioned close to the surface where the conveyed feed material is leaving the rotor due to its natural trajectory. This design gives an efficient separation but leaves a 'dead' magnetic area at the bottom of the rotor so that any attracted ferrous falls away extending conveyor belt life.



Eccentric rotors

Optional Extras:

- Optional Vibratory feeders (VF) mounted to ensure uniform flow of material on the ECS belt.
- Optional Rare Earth drum magnet mounted after the vibratory feeder for fine ferrous separation, ferrous material will be discharged from the drum and materials not influenced by the magnetic field will cascade over the drum surface and continue their normal trajectory onto the ECS conveyor.
- Rotary or static cleaning brushes can be installed to remove product, which may adhere to the Eddy Current Separators' belt. Bunting Sales Team can advise customers on these options if required.
- Bunting supplies supports to ground level should they be required.
- Supports to ground level should they be required. Custom designed walkways can also be provided for around the ECS unit to allow for greater access to the machine and its components.

Features:

- Multiple diameter magnetic rotors designed for the highest magnetic gauss fields on the belt surface for superior product throw.
- Tough polyurethane belts for long wear life
- Models available from 0.5m to 2m wide.
- ECS supplied with integral lifting jacks for easy belt change operation.

Suspension Magnets

Permanent and electro suspension magnets are designed to extract occasional tramp iron from material being processed by means of a vibratory feeder, gravity chute, or conveyor belt. They are exceptionally efficient in removing tramp iron from coal, stone, fertilizers, recycled asphalt, slag, gypsum, ores and similar materials. Removing tramp metal contamination helps protect the other equipment in your facility from being damaged and maintains higher purity in the materials you are processing through your operation.

Benefits of the Permanent Magnet Design

- Constructed using non-deteriorating, high power ceramic magnet components.
  - Optional Rare Earth models available.
- Intensely durable construction resisting moisture, corrosion, and heat.
- Inexpensive to operate with no cables or wires required.
- Ferrous material is extracted and held in place until manually cleaned off.
  - Optional rubber wiper assists in removing the collected ferrous.
  - Optional stainless steel slider plate simplifies clearing of ferrous.
- Optional Tri-Polar design increases field strength and reach.
- Suspension magnets come standard with suspension chains and hardware.
- Can be suspended horizontally or on an incline.
- Available sizes cover a full range of conveyor widths.
- Works on burden depths up to 300mm (12") Ceramic or 450mm (18") Rare Earth depending on the material being separated.

Benefits of the Air-Cooled Electro Magnet Design

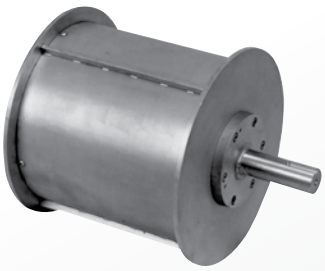
- Lighter than oil-cooled electro suspension magnets.
- Less maintenance than oil-cooled electro magnets.
- Durable construction ensures longevity of equipment.
- Ferrous material is extracted and held in place until power is turned off.
- On/Off switching simplifies removal of collected ferrous.
- Comes standard with suspension chains and hardware.
- Works on burden depths up to 600mm (24") depending on material being separated.

Benefits of the Oil Cooled Electro Magnet Design

- Strongest option available.
- Maintains optimum working temperature.
- Maximum protection for your processing equipment.
- Holds extracted ferrous material in place until power is turned off.
- On/Off switching simplifies removal of collected ferrous.
- Comes standard with suspension chains and hardware.
- Works on burden depths up to 800mm (32") depending on the material being separated.

Drum Magnets

Bunting manufactures many types of drum separators, ranging from heavy duty electro drums for separating ferrous metals from non-ferrous metals, to permanent magnetic drums for fine iron separation. The magnetic drum separator is normally installed at product discharge points and incorporates a 150 – 180 degree magnet system, encased in a stainless steel shell, with optional manganese wear plates for severe application. This system pulls iron contamination out and behind the clean product path and discharges it down a separate chute while the clean product continues its normal trajectory. Drum magnets are self-cleaning and provide continuous separation of ferrous contaminants from a wide range of free-flowing bulk and granular materials in high-volume applications.



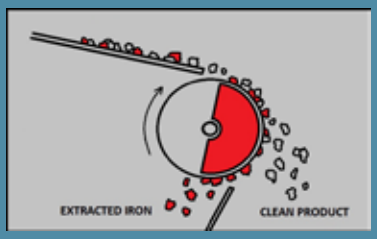
Drum Magnets

Magnetic Drum Separators are designed for the continuous extraction of iron from material being fed uniformly onto the face of the drum.

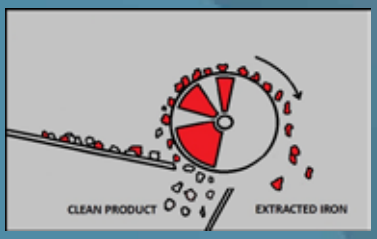
Principal of Operation

Magnetic Drums are constructed with a 150° -180° stationary magnet system, around which a cover revolves. Material is fed onto the drum cover at the leading point of the magnet section. Magnetics will adhere to the drum cover as it revolves around the magnet system and will be discharged behind the normal trajectory, assisted by the axial wiper bars, after leaving the magnetic field. Non-magnetic materials will fall forward, following their normal trajectory.

Radial Pole Operation



Alternating Pole Operation



Permanent Magnetic Drums

Permanent Magnetic Drum Separators are built using a fully stabilized non-deteriorating Strontium Ferrite magnet system for general tramp metal removal or Neodymium Iron Boron magnet system for fine iron removal, both are non-deteriorating permanent magnet systems which do not require a power source. The magnets are specifically designed to concentrate all flux at the peak of separation, providing a separator that works constantly at maximum efficiency and is virtually maintenance free.

Ideally material needs to be dry and free flowing for successful ferrous separation.

Typical applications of Permanent Drums include the separation of steel swarf from aluminum and for the removal of ferrous contaminants from shredded wood, plastic, rubber, and glass cullet.

Electro-Magnetic Drums

For the large scale processing of material, Bunting manufactures a range of Electro Fragmentizer and Slag Drums for special applications.

With larger drums, an electromagnet system is utilized, with coils being wound with insulated aluminum wire. Electro Drums are available in diameter sizes of up to 72 inches (1830mm) and widths up to 110 inches (2800mm).

Fragmentizer Drums are heavy duty alternating pole drums suitable for the reclamation of fragmentized metals in applications such as municipal refuse and End of Life Vehicle (ELV) recycling facilities. These drums can be bottom fed where the alternating pole design allows entrapped metals to flip on the face of the drum as it rotates, resulting in cleaner separated ferrous product.

Slag Drums are powerful radial pole drums suitable for the reclamation of slag from Steel Production. Typically, top fed, the pole design allows the maximum entrapment of ferrous and the highest levels of recovery.

Heavy Duty Drum Magnets

Fragmentizer Electro Drums

Fragmentizer magnetic drum magnets are available for the continuous, automatic separation and upgrading of ferrous from non-ferrous metals in scrap processing, steel bearing slag, foundry metal recovery, municipal waste and many other extreme heavy-duty recycling applications. It can also be used for the selective reclaiming of light materials in de-tinning processes.

Within fragmentizer electro drums, alternating magnetic high intensity poles act as 'agitators' at the point of extraction, lifting the ferrous metals and allowing non-magnetic materials to fall away. These exceptionally large drum magnets are available in sizes up to 72" in diameter and 110" in width, with Bunting offering custom designed engineering to integrate with existing conveying equipment and handle large volumes of material being processed.

The fragmentizer magnetic drum magnet is offered in electro, permanent and combination electro/permanent magnetic configurations. The drums can be fitted with easily replaceable wear covers, available in stainless steel or manganese steel. The magnet system is locked in position by a heavy duty turnbuckle arrangement.

Key Advantages:

- The axial pole design gives continuous high field strength at the separation zone. The effective magnet width is maximized, thus ensuring even cover wear and minimum burden depth of material.
- The bipolar alternate pole arrangement ensures a cleaner separation of ferrous and non-magnetic materials. This allows materials which may be entrapped to roll over the face of the drum, helping to release the non-metallic materials from the magnetic materials being extracted.
- The high intensity primary coil concentrates maximum flux at the point of extraction whilst the lower intensity secondary coil ensures that ferrous material is transported to the point of discharge.
- Ducted coils give improved cooling, resulting in a low winding temperature that allows for higher intensity and a longer coil life.
- Manganese steel wear covers are 8mm (0.315") thick and incorporate bolted joints for ease of cover replacement.

Magnetic Separation Pulleys

Offering superior continuous removal and discharging of ferrous contamination, such as nails, staples, bolts and wire from conveyors, all with maintenance-free operation. OEM Separation Pulleys are economical magnetic separation pulleys that can be used to transform your standard material handling conveyor into a material separation conveyor. Being able to combine the transport of your materials and the separation of contaminants into one simple step increases the efficiency of your operation

- Manufactured for maximum reach-out, holding force and separation effectiveness.
- Available in both economical ceramic and the high-intensity neodymium rare earth magnets for maximum separation.
- Available in 100mm to 1200mm (4" to 48") diameters
  depending on your application needs.
- Widths from 100mm-2100mm (4"-84") wide.
- Offer maintenance-free operation.
- Available in all-stainless-steel construction with food, sanitary, and USDA finishes available to fit your production safety regulations.
- We offer an assortment of taper lock or QD hubs for any shaft diameter you need or welded in shafts to slip into the end of your conveyor and match up perfectly.

High Intensity Separation Pulleys

Built with high-intensity neodymium rare earth magnets, these pulleys are designed for the toughest jobs that require maximum separation. High-intensity separation pulleys are ideal for separating materials that are difficult to magnetically attract and separate from a material flow using standard methods, such as paramagnetic fine particles, and work-hardened fasteners.

- Deep reach rare earth pulleys are ideal for installation in high volume processing lines to ensure all ferrous metals are removed from deeper burden streams before they reach other equipment.
- Pulley units can be incorporated on OEM conveyors, providing reach outs of 250mm-300mm (8" to 10") with unmatched field intensity.
- Low reachout rare earth field pulleys are available, designed to have high gauss, super high-intensity fields while maintaining a low reachout in order to suit low volume applications.
- Low reachout pulley units can be easily incorporated on OEM conveyors to create an all-in-one system for conveying and separating materials.

Grinder Feeder Conveyors (GFC) for Shredders and Grinders

Heavy-Duty GFC

- Designed for rugged applications that handle between 3600 - 9000 kg/hr (8,000 - 20,000 lbs/hr) - including whole bales, heavy purgings or bulk municipal recycling.
- Typically constructed of formed 3/16" mild steel on 300mm-375mm (12" - 15") channel iron frames, 4-ply belts with beefy cleats, UHMW skirting, 250-300mm (10" - 12") pulleys and large drives with large D-coil Metal Detectors before the Shredder.

Standard-Duty GFC

- Designed for 900 kg - 4,500 kg /hr (2,000 - 10,000 lbs/hr) of shredded material.
- Fabricated from formed 12 gauge or formed 3/16" steel.
- Built with 150mm - 250mm (6" - 10") diameter pulleys, heavier cleated cross-rigid flexwall belts and flared in-feed hoppers to match up to the Shredder discharge opening.
- Available with optional equipment to purify the regrind, including "under the belt plate" or Tunnel-Style Metal Detectors with automatic discharge flip gates or magnetic CrossBelt Separation. Conveyors mounted above the inclines with or without a Rare Earth Discharge Pulley.

Light-Duty GFC

- Used for hand-feed systems of either scrap parts or stringers for in-house beside the machine grinder recycling.
- Constructed of a fabricated 12-gauge steel frame, smaller drives, under the belt plate S-Coil Metal Detector and 75mm - 100mm (3" - 4") pulleys with inexpensive smooth or ruff-topped belts.

Shredder Discharge Conveyors

Heavy-Duty GFC Hockey Stick

- Runs between approximately 3600 -9000 kg/hr (8,000 kg/hr - 20,000lbs/hr) and built for the most rugged applications.
- Heavy-duty construction including: Formed steel frames, heavy cross-rigid or cleat topped belts with UHMW skirting and flared in-feed hoppers to match up to Shredder discharges
- 250mm-300mm (10" - 12") pulleys and large drives with optional magnetic CrossBelt™ Separation Conveyor, Magnetic Head Pulleys, "under the belt plate" or Tunnel-Style Metal Detector with automatic discharge flip gates.

Standard-Duty GFC Hockey Stick

- Designed for 900 - 4500 kg/hr (2,000 - 10,000 lbs/hr) of shredded material.
- Fabricated formed steel framed conveyors
- Built with 150mm-250mm (6" - 10") diameter pulleys, heavier cleated cross-rigid flexwall belts and flared in-feed hoppers to match up to the shredder discharge opening.
- Available with optional equipment to purify the regrind, including "under the belt plate" or Tunnel Style Metal Detectors with automatic discharge flip gates or magnetic CrossBelt™ Separation Conveyors mounted with or without a discharge, and Rare Earth Discharge Pulley.

Light-Duty GFC Hockey Stick

- Designed for lower flow rates usually under 900 kg/hr (2,000 lbs/hr).
- Economically constructed of a fabricated steel frame, smaller drives, with 75mm (3") pulleys and cleated belts.
- Light-Duty allows for optional casters that can easily be wheeled out of the way for machine maintenance.

DragSlide Conveyors

Designed for the thin mil plastic film industry to solve the problem of static electricity, Bunting's sealed Dragslide Conveyors are ideal for handling plastic film, paper, and fiber materials in the recycling industry.

- Dragslide conveyors feature a totally enclosed design, using UHMW drag flights to efficiently move and convey material.
- Sealed conveyor eliminates static conveying lines and results in a much cleaner facility.
- Reduces downtime as employees can focus on production instead of time-consuming clean-up and maintenance.
- Available in larger maximum-duty units, with stationary or mobile bases depending on your production needs.
- In-feed hoppers designed to match up to shredder discharge points, allowing for seamless integration with your existing equipment.
- Optional rare earth magnet configurations.
- Available to implement in discharge chute.
- Units equipped with clear sight windows, allowing operator to view material flow within the enclosed system.

HOCKEY-STICK STYLE INCLINED DRAGSLIDE CONVEYOR

Designed and built to match up to and fit up to shredder discharge openings. After receiving material from a shredder discharge opening, these inclined conveyors can then raise the material to the desired elevation, transfer material to another conveyor, or transfer material directly into an extruder.

Bale Break Station

Bunting® bale break conveyors are designed to improve loading and separation efficiencies. They can be as simple as jogged in-feed conveyors for bales of plastic film or as complex so as to implement powered beater shafts to break up bales of plastic bottles. Whether it is bales of post-consumer detergent, milk jugs or plastic bottles, Bunting has bale break in-feed conveyors to feed your shredding line.

Bales of material are usually placed by fork lift on the in-feed portion of the conveyor either from the side or end loading. The operator then cuts and pulls the bailing wire before proceeding to either jog or power feed the material onto the inclined shredder feeder conveyor.

- Heavy duty frame construction to withstand the toughest operating conditions.
- Heavy duty forklift loading and pullout slots.
- Conveyor frames for 30″ to 72″ wide belts.
- Adjustable belt speeds, ranging between 5 to 30 fpm.
- Optional double beater shafts for bottle applications only.
- Available with small tables with forklift pullouts or large tables with stairs and working mezzanines.
- Live bottom belted metering stations.
- Surge hoppers with live bottomed conveyors.
- Optional bailing wire spindles available for operators to wrap material around after cutting bale wires.
- Horizontal metering conveyors available for Gaylord dumpers.

Bale Inspection Conveyor

Bunting® offers Inspection Conveyors with Metal Detection for baled recyclable materials to use either as an independent stand-alone system or as the infeed conveyor to the shredder line. Your bales of post-consumer carpet, plastic bottles, milk jugs, plastic film, clothing or fiber can be inspected to determine if there is scrap metal, aluminum cans or other metal objects enclosed that could damage your shredder or contaminate the product stream.

Four-Step Process

1. Bales are placed on the infeed portion of the conveyor against optional backstops.
2. Bales then run through a tunnel-style Metal Detector sized perfectly to fit your bales.
3. Using sensitive triple coil technology, the Metal Detector identifies any metal contamination within the bale itself and then double-checks it before conveying the bale out to be down loaded or feed directly onto an inclined Shredder Feeder Conveyor.
4. The inspection conveyor can also mark the contaminated bales making them easily identifiable to do further inspection.

Select Features

- Heavy duty channel frame construction
- Optional back stop for bale loading
- Conveyor frames for 36" - 72" wide belts
- Belt speeds between 20 - 40 fpm
- Optional Metal Detector on separate isolation support

METAL DETECTION IN THE RECYCLING INDUSTRY

Even the smallest amount of metal contamination that is not properly removed from a recycled product can seriously harm a customer, devastate a brand's reputation, and inflict the heavy financial costs of liability, product recall and damage to production equipment.

Metal particles are the most common source of foreign contamination in recycled material processing, and this contamination can frequently enter the product stream as a result of the wear and breakage of other processing equipment in the production facility.

Bunting metal detectors are able to sense and reject extremely small, ferrous metal particles from the process flow or from shredded recycled material, even detecting metal encapsulated in individual plastic particles. With Bunting metal detection equipment integrated into your process, you will be able to send your product to market with complete confidence.

HOW METAL DETECTORS WORK

The product passes through an opening in the detector, which houses a unique three-coil search head. This is comprised of windings around an aperture opening, whether round or rectangular. There is a transmitter in the center of this coil with two receivers surrounding it, one placed at the entrance of the search head and one at the exit. Within the aperture opening, an electromagnetic field is created. When a piece of metal passes through the coil opening, a signal is generated and calculated, activating further operations or devices. All metal detectors utilize electronic control packages designed by Bunting to specifically fit with our metal detection equipment.

Some metal detectors are equipped with automatic reject mechanisms, which isolate contaminated material and remove it from the product flow. Bunting's automatic reject mechanisms operate quickly and efficiently, meaning that the removal of contaminated product does not come at the expense of slowing down your operating process.

BUNTING DESIGN ENSURES MECHANICAL INTEGRITY

As our description of metal detector operation suggests, metal detectors are highly sensitive. They are precisely calibrated instruments that can be affected by vibration, electrical fields, and other environmental conditions.

To ensure the most reliable operation in demanding environments, Bunting metal detectors are designed and manufactured to a higher standard of durability and signal strength. The search head is filled with catalyzed epoxy, to eliminate void areas inside the housing. This waterproofs the search head and stabilizes it against vibration. Coils and electronics may have an IP Enclosure rating for dust and water protection from IP54 to IP65 and IP69K.

Advanced shielding technology in the Bunting design provides superior protection from outside interference. Bunting metal detectors therefore require shorter metal-free zones, and are able to operate in difficult environments where competing detectors cannot.

BUNTING QUALITY CONTROL

Depending on the level of electronics you select, Bunting® metal detectors have recording and reporting functions within the software. Optional features allow your organization to connect detectors for remote monitoring, reporting or control.

SELECTING THE BUNTING METAL DETECTOR FOR YOUR OPERATION

Recycling companies must manage unique process flow conditions and the challenges of handling many different types of material. To assist our customers in choosing the metal detector best suited for their operating conditions, we pair each customer with a Bunting representative to aid the decision making process. Your Bunting representative is available to consult at any phase of the design process. We can assist in both integrating new equipment into established operations as well as planning a new facility from scratch.

Metal Detectors for Plastics Processing and Recycling

Gravity Free-Fall Style Metal Detectors with Integrated Reject Mechanism.

quickTRON™ 03R

This low-cost, triple-coil detector offers superior sensitivity, simplicity, and reliability. The Bunting® quickTRON™ 03R is specifically designed for demanding applications in the plastics and recycling industries.

- Consistently detects and rejects small fine particles that other metal detectors struggle to detect.
- Handles detection and removal of fine metal contamination in critical processes.
- Housing controls are contained to eliminate risk of interference.
- High-speed stainless steel reject mechanics allow for economical, compact design.
- Units are fully self-monitoring.
- Integral brackets simplify mounting.

quickTRON™ 05 (Flap or Cowbell Style Reject Diverters)

The Bunting quickTRON™ 05 uses a CR coil for reliable metal detection and is a cost-effective option for the examination of bulk material in gravity free-fall applications.

- Flap option is recommended for powders, fine granular, or dry products.
- Cowbell option is recommended for abrasive, sticky or non-powdered products.
- Equipped with simple 05 controls. Remote mounted controls available.
- Stainless steel, washdown, or painted versions available to suit your operating needs.
- ATEX explosion proof rating available. Hazardous environment rating available for flap style unit.

HS 9050/9100

Entry-level, economical Bunting® HS metal detection systems pneumatically reject isolated metal debris from powders, granules, and other bulk materials used in gravity-fed plastics and recycling applications.

- Economical, compact, and versatile.
- Adjustable sensitivity and rejection. Air-powered stainless steel flap offers rapid rejection cycling for cleaner results.
- Low-maintenance operation. HS detectors self-monitor their sensors, mechanical function, voltage, and air pressure.

MACHINE MOUNTED ALL-METAL SEPARATORS (MMS)

The Machine Mounted All Metal Separator provides efficient detection and rejection of both ferrous and nonferrous metal contaminants within all materials, whether loose or encapsulated, without process interruptions. The MMS is designed for mounting on an injection molding machine or extruder as a "last chance" metal detector. This type of detector, also available in a high-temperature rated model uses a pneumatic rejection mechanism to remove metal contaminants that were detected previously in the process flow.

- Designed especially for choke-feed applications, the MMS can bolt directly to the infeed of processing equipment and support the weight of hoppers and bins.
- Fast pneumatic rejection mechanism, (aided by precise timing), results in accurate cycling and conservation of good material.
- Slide gate rejection design eliminates contamination leaks.
- Available in a high-temperature version suitable for handling product at higher-than-normal temperatures (up to 350°).

Cleaning Systems

Many companies find it effective to combine multiple Bunting® products in order to create what is called a "cleaning system". A Bunting cleaning system utilizes magnetic separators and metal detectors assembled together in multiple combinations in order to ensure maximum protection against ferrous and nonferrous debris. They are the perfect solution for purifying regrind and recycled goods in a plastics plant.

Cleaning systems combine magnetic and electronic separators to remove both ferrous and nonferrous contaminants efficiently from free-flowing virgin resins, regrind, and recycled plastics. They are an excellent choice wherever the volume and variety of metal debris might overload a single separator. The sturdy steel framework provides easy component access and includes a receiving hopper.

DUPLEX SEPARATOR

FF Drawer Magnet and Electronic HS Metal Detector

- The FF drawer magnet reduces the number of HS Metal Detector reject cycles, which reduces loss of good material.
- HS detector acts as a backup for removing ferrous contaminants while rejecting other common nonferrous metal contaminants.
- Eliminates virtually all metal from a plastics process in the most efficient manner possible.

BY THE PRESS CLEANING STATION

FF Drawer, and quickTRON™ 03R

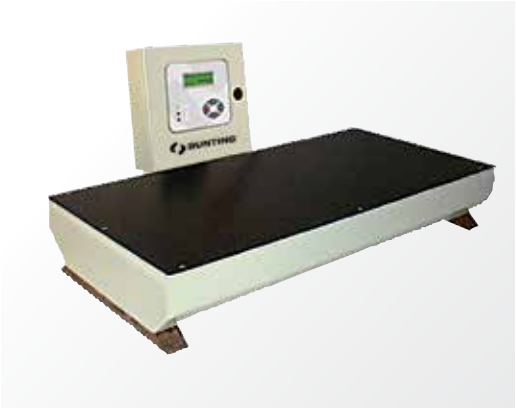
- FF Drawer will capture any ferrous fines while the electronic metal detector senses and rejects both ferrous and nonferrous metals.
- quickTRON 03R offers adjustable sensitivity and a fast-acting rejection mechanism.

GAYLORD CLEANING STATION

FF Drawer, and quickTRON™ 03R

- Utilizes magnetic separators and metal detectors assembled together in multiple combinations to ensure maximum protection against ferrous and nonferrous debris, while minimizing loss of good product.
- FF Drawer will capture any ferrous fines while the electronic metal detector senses and rejects both ferrous and nonferrous metals.
- Metal Detector offers adjustable sensitivity and a fast-acting rejection mechanism.

Metal Detectors for Conveyors



meTRON™ 03 S

These single-sided, triple-coil under the belt detectors install in belt conveyor systems and scan through the belt into product with a maximum burden depth of six inches. This single surface detector works well for belt conveyors and vibratory chutes.

- Triple-Coil Technology
- EMFI filters reduce waste, misses, and false alarms
- Maximum burden depth of six inches
- Reject options include pusher, flap, and cut-out devices
- Digital controls with keypad
- Works well for belt conveyors
- Quick and easy installation
- Optional reject devices available

meTRON™ 05 D

The Bunting meTRON™ 05 D is a two-piece, tunnel-style metal detector that can be separated in order to install around belt conveyors. It offers triple-coil sensitivity and accuracy, is easy to install, and provides stable performance. This two-piece, tunnel-style detector is perfect for belt conveyors and vibratory chutes.

- Automatic product tracing and temperature compensation.
- Easy installation and user-friendly operation.
- Triple-coil sensitivity and superior accuracy in detection.
- Overall waterproof construction, in addition to an epoxy-filled search head allows for maximum protection of internal components.
- Serial interface (RS-232) with multi-level password protection and a built-in digital event counter.
- Combination assemblies with detector and conveyor can be custom-built to suit your application utilizing a variety of rejection devices, including pusher, flap, or cut-out styles.

MAGNETIC SEPARATION

Safeguard your product quality and protect your recycling equipment with Bunting's line of magnetic separation products. Separation of metal contaminants is an essential step in the processing of recycled material. Bunting manufactures an extensive line of magnetic separation equipment that removes contaminants from a variety of material consistencies. We offer units designed to remove metal contamination from gravity, mechanical, and pneumatic conveying systems.

Ferrous metal contaminants in a production line present not only a risk to a consumer or employee who may be harmed by a sharp piece of scrap metal, but also to the other equipment in your facility. Our magnetic separation equipment pulls ferrous contaminants out of the production line quickly and efficiently, sparing you the costs of repairing or replacing equipment such as grinders that could be seriously damaged if a piece of metal scrap were to inappropriately pass through them.

Gravity Free-Fall Style Magnetic Separation

NEO FF SERIES DRAWER MAGNETS

Superior Contaminant Capture that Handles High Temperatures

Since 1964, Bunting® Drawer Magnets have been the plastic industry's most popular choice for extrusion, injection, and blow molding equipment. Today, they are better than ever. Our FF Series Drawers come standard with super-strong neodymium rare earth magnets powerful enough to capture and hold ferrous particles so small that they are invisible to the naked eye. NEO magnets have exceptional surface holding force for more complete removal of contaminants and less chance of "wipe-off," (which refers to contamination falling off of the magnetic surface and re-entering the product stream).

Durable Construction

Bunting NEO FF Drawer Magnets feature rugged 11-gauge stainless steel housings built to support symmetrical compression loads of 10,000 lbs. The drawer gasket on these magnets are cut from Ethylene Propylene Diene (EPDM), which resists heat aging, and compression set. Much more durable than sponge rubber.

For material coming directly from a high temperature drier ask about our FF 350° F model!

- The NEO FF drawer utilizes temperature-compensated rare earth magnets for superior high-temperature operation.
- Units are built with welded stainless steel housings for easy cleaning and durability.
- EPDM gasket resists heat aging and compression set.
- High-torque nylon knobs resist breakage.
- Our patented No-Spill™ Slide Gate is fitted with a magnetic safety latch to prevent accidental closure in high-vibration applications.

- Stainless steel center drawer guide simplifies removal and re-installation of the magnet drawer for quick, easy cleaning.
- Most powdered colorants and resins slide off without sticking.
- Superior cartridge geometry increases reach-out and holding power.
- Robust construction prolongs cartridge life.

HF DRAWER MAGNETS

Bunting HF Series Drawer Magnets are equipped with powerful magnetic cartridges to handle a wide range of separation tasks in mechanical or gravity flow applications. They can be configured with up to 5 rows of magnetic cartridges, arranged so that the cartridges are staggered to increase contact with the product stream. Material moves in a waterfall flow pattern from one cartridge tray to the next, resulting in exceptionally thorough cleaning.

- Available with multiple cleaning options and stainless steel housings.
- Bunting supplies custom transitions to match round, square, or rectangular spouting, allowing for a simple, secure fit with your existing equipment.
- Multiple cartridge trays provide increased contact with product flow for more complete metal capture.
- HF Drawer Magnets are available with the NUHI™ Neo Ultra High Intensity Cartridge Magnet. Completely redesigned from the ground up to address the processing challenges manufacturers face. The NUHI™ cartridge is nearly 20% stronger and delivers 50% more reach out than our previous cartridge design. The result is more power, a purer product, and improved plant efficiency. Ceramic and rare earth magnets are also available.
- Manual, manual self-cleaning, pneumatic self-cleaning and pneumatic continuous self-cleaning configuration options are available.

HF DRAWER CONFIGURATION OPTIONS

MANUAL

In the manual standard configuration, ferrous debris is removed from the cartridges by sliding the trays out of the housing and wiping them off by hand. This allows the operator to see exactly how much material was separated out of the product line. Giving them insight into the process and providing hands-on interaction.

SELF-CLEANING

The self-cleaning configuration is designed to fully extend the magnetic cartridges outside the housing. As these tube assemblies travel outside the housing, the ferrous metal is wiped from the surface of the cartridge. The collected metal then drops off into a tray outside the housing.

PNEUMATIC SELF-CLEANING

The pneumatic self-cleaning configuration releases ferrous contaminants into the discharge area automatically using pneumatic power. With this model, product flow must be stopped in order to clean cartridges and prevent contaminated products from flowing into the product stream. Pneumatic units operate via a toggle control, push button or timer. They can also operate via a Bunting engineered automated control package, making them an ideal choice for installing in hard-to-reach locations.

PNEUMATIC CONTINUOUS SELF-CLEANING

The pneumatic continuous self-cleaning configuration utilizes a special drawer design that allows product to continuously flow while magnets are being cleaned. There is no need for a gate to stop product flow. Each row of magnets is cleaned in an alternating pattern, allowing the product to continuous flow and remain in contact with a row of magnets at all times. This unit operates by remote switch or by a Bunting-engineered automated control package, allowing it to be installed in hard-to-reach locations.

Plate Magnets

Bunting supplies various types of plate-based magnetic separators that can be implemented into a broad range of applications, and can be used with an equally wide range of materials. All plate magnets are designed for the capture of tramp metal in gravity free-fall applications. Metal-detectable gaskets and grommets are standard features in housing of plate magnets.

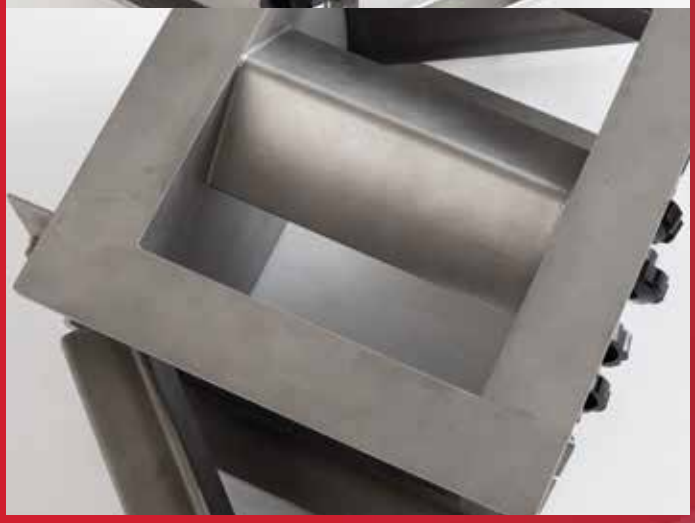
STANDARD PLATE MAGNETS

Standard Plate Magnets are available with permanent ceramic magnets or with high-intensity permanent rare earth magnets. Both types of magnets work efficiently to capture fine metal particles and slightly magnetic debris from powdery, moist, clumpy, or abrasive materials that might choke or wear cartridge-based separators. Plate magnets install easily in chutes to remove ferrous fine particles and larger pieces of tramp iron from many types of free-flowing and pneumatically conveyed material. They can also be installed above conveyors or below conveyor drive pulleys to capture contaminants as material drops from open belts. Installation kits include a pre-drilled hinge, latch, and other hardware to ensure easy mounting. Tapered Step Face Plate Magnets are designed to prevent contaminant wipe-off in rapid product flow. Standard plate magnets are available in widths from 100mm-1524mm (4" to 60").

- Flat face, exposed pole, and tapered step models available to meet your specific requirements.
- Ideal for 30° to 60° inclines, allowing contaminants to be trapped as material flows over the plate magnets.
- Hinged plates swing out for easy cleaning.
- 300 series stainless steel construction. 316 stainless steel available when required. Tapered step face, to prevent product wipe off in rapid product flow is constructed from 400 stainless steel.
- Rare earth magnets are available to provide maximum strength and reach out.
- Optional replaceable grain face available for dealing with abrasive materials.

Plate Housing Magnets

Plate Housing Magnets resist bridging and choking to remove tramp iron and ferrous fine particles from flow-resistant bulk materials. The stainless steel housings mount easily to enclosed spouting or directly on processing equipment. Optional square, rectangular, and round adapters can be supplied or designed to your specifications for ease of installation. A baffle at the top of the housing helps break up clumps and directs product flow over the unit's two powerful plate magnets.



- Removing contaminants for ferrous and non-ferrous, install a plate housing magnet above a Bunting quickTRON Metal Detector.
- Excellent for separation of coarse, fluffy, and other flow resistant materials that bridge in grates and drawer magnets.
- A diverter at the top of the housing helps break up clumps and directs product flow over the unit's two powerful plate magnets.
- Additional removable/replaceable diverters are available.
- Custom transitions for round, square, or rectangular spouting are available to fit any application.
- Economical ceramic and powerful rare earth magnets are both available based on your production needs.
- A self-cleaning option is available for increased efficiency.
- Compact design fits easily into limited spaces, allows for mounting on processing equipment or on spouting.
- Rugged stainless steel construction to resist wear and extend life of equipment.

Grate Magnets

Bunting grate magnets remove ferrous fines, metal fragments, and larger metal objects from various products. Grates can be installed or simply laid inside hoppers, pits, chutes, housings and bins, where they can be accessed for cleaning.

GENERAL-PURPOSE GRATE MAGNETS

- Standard grate magnets use 1" round cartridges. They are easy to access and remove for cleaning.
- Available in round, square, and rectangular arrays. Standard sizes from 4" to 36". Easily fit into a variety of applications.
- 304 Stainless Steel is standard but 316 Stainless Steel is available for corrosive environments.

HEAVY-DUTY GRATE MAGNETS

- 1-1/2" square tubing made from sturdy 304 Stainless Steel welded to frame with rigid channel side members.
- Available in square and rectangular styles. Standard sizes range from 12" to 60" on a side to fit in a variety of applications.
- Ruggedly built for demanding indoor/outdoor use.
- Ideal for handling abrasive products and hard-to-flow materials and, minimizing bridging and product build-up.

ADDITIONAL GRATE MAGNET OPTIONS

- Plain Style
- Angular baffles
- Rod baffles

In-Line Magnetic Separation

PNEUMATIC IN-LINE MAGNETS (PIM)

Pneumatic in-line magnets are built for use in dilute phase pneumatic conveying systems. They can be installed easily with optional factory-supplied compression couplings and, works in horizontal with the magnet on the bottom or vertical with the magnet on either side to take advantage of the material flow. Pneumatic in-line magnets feature full-flow architecture to allow an unobstructed product stream.

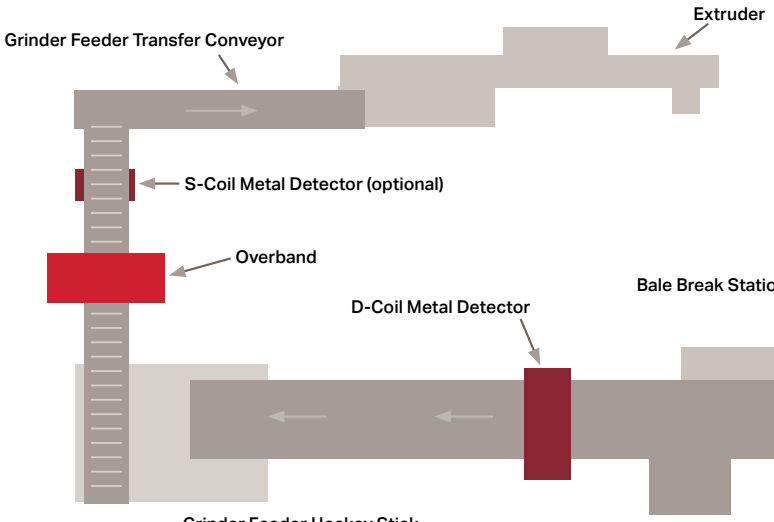
- Designed for unobstructed product flow in dilute phase conveying up to 15 psi.
- Best suited for horizontal installation with magnet on the bottom, but can work in vertical installations.
- Compression couplings speed in-line installation.
- High-energy rare earth tapered step plate magnets are standard.
- Tapered transitions guide material directly over the face of the hinged plate magnet, which swings away from the housing for quick external cleaning.
- Comes standard with a tapered step face to prevent product wipe off.
- Portable carts are available.

CENTER-FLOW IN-LINE MAGNETS (CFM)

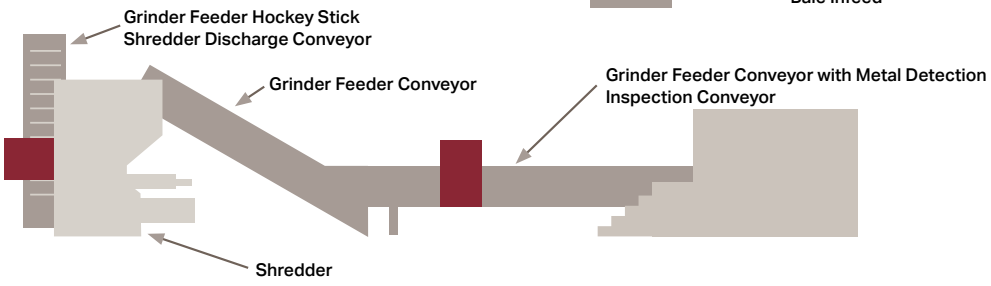
Center-flow in-line magnetic separators are engineered to remove ferrous fine particles and larger pieces of tramp iron from dry particulates as they travel through dilute-phase pneumatic conveying lines. To achieve optimum contact with the product flow, a conical magnet is suspended in the center-line of the housing. This tapered, exposed-pole cartridge has a stainless steel “nose cone” to direct the flow of materials around the magnet. The magnet’s tapered poles allow ferrous fine particles to collect out of the direct air stream. Additionally, the trailing end of the magnet is an active pole which will collect any tramp metal that gets swept down the cartridge.

- Designed for unobstructed product flow in dilute phase conveying up to 15 psi.
- Available with all line and fitting types. Placement in vertical run makes optimum use of the magnetic field and ensures maximum efficiency in separation.
- High-energy rare earth magnets are standard.
- Optional clear view inspection port to observe separation process.
- 3” and 4” models are manufactured using new bolt-on flange design for quick delivery.

Top View

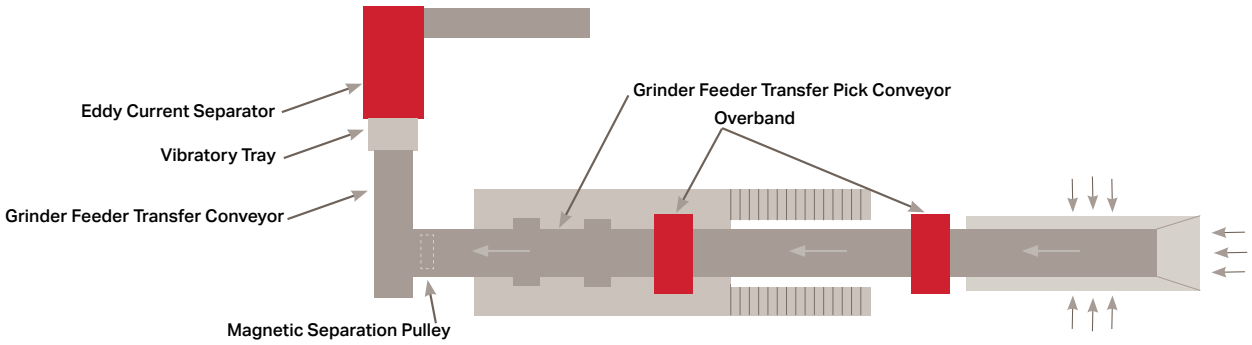


Side View

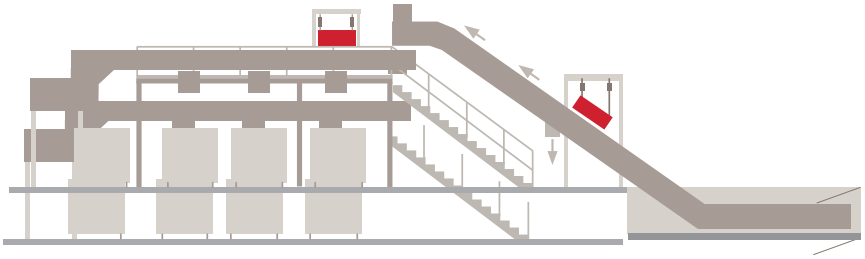


MUNICIPAL RECYCLING

Top View

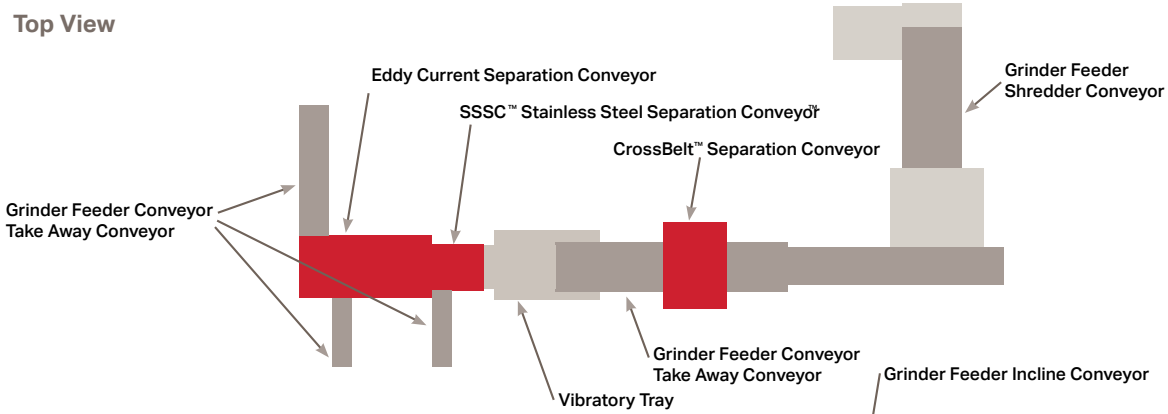


Side View

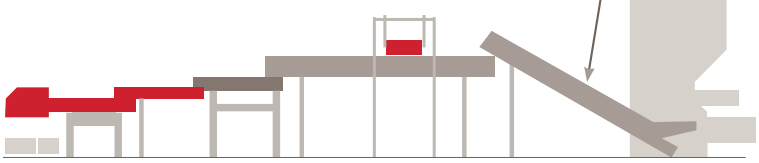


E-SCRAP RECYCLING

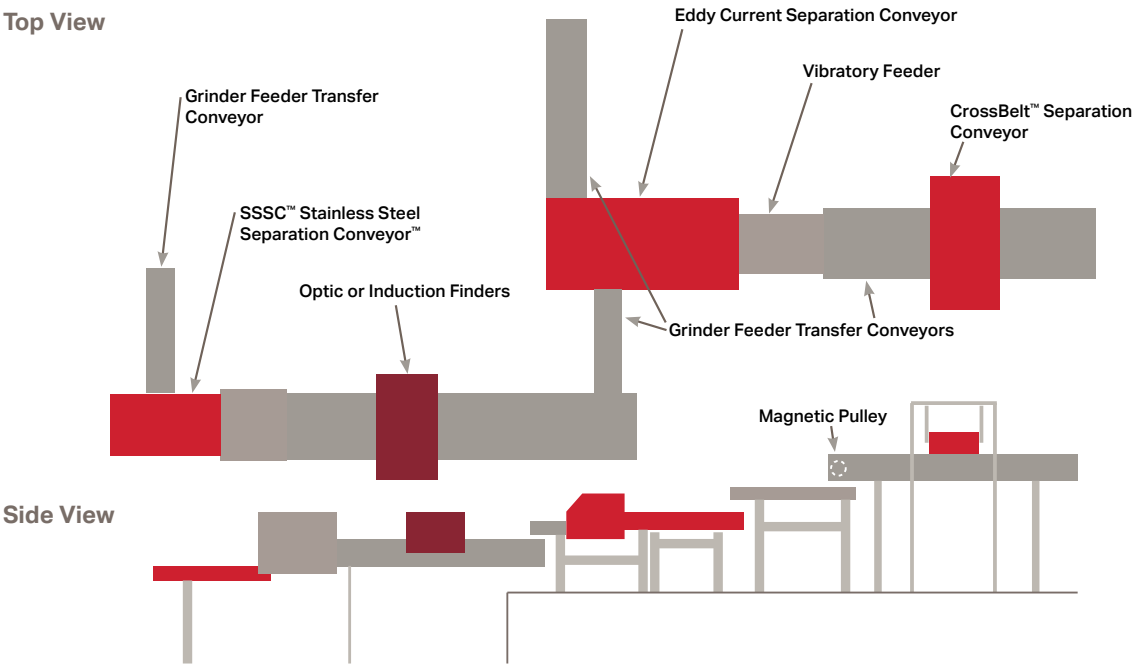
Top View



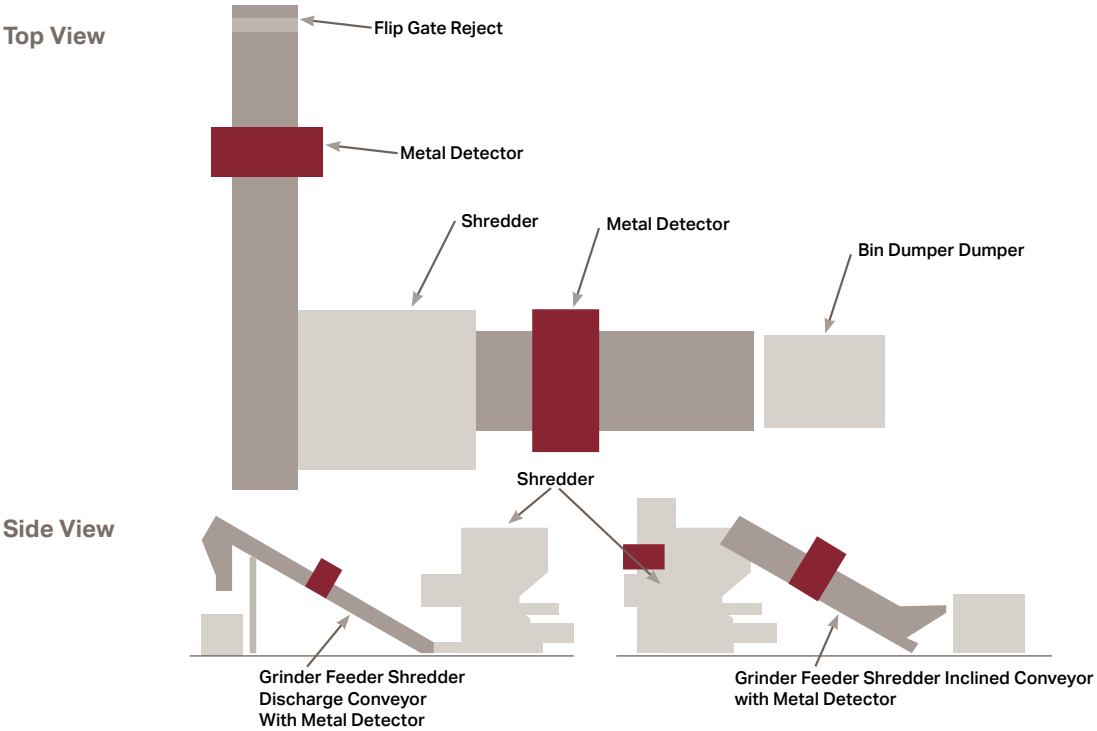
Side View



AUTO RECYCLING



PLASTICS RECYCLING



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