

Metal Separators

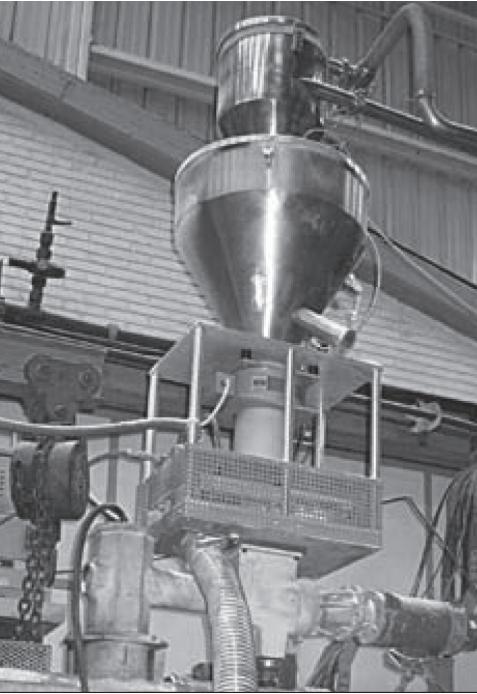


MODELS CF, CFP AND FF



Metal Separators

Eriez Metal Separators remove unwanted tramp metals or metal contaminants from wet or dry, coarse or very fine material flows, and separates or concentrates magnetic material.



CF Metal Separator installed at the material infeed



Model CFP Metal Separator at the material infeed throat of an injection molding machine



Model FF Metal Separator used for the quality control of PET regrind

Model CF

Heavy-duty Metal Separator for Extruders, Injection and Blow Molding Machines

The Model CF Metal Separator is installed directly above the material feed throat of an extruder, injection molding or blow molding machine. It provides precision identification and removal of magnetic and non-magnetic metal contaminants from a slow, downward-moving column of material. Its robust, heavy duty design allows material feed systems to be mounted directly on top of the metal separation unit.

PRINCIPLE OF OPERATION

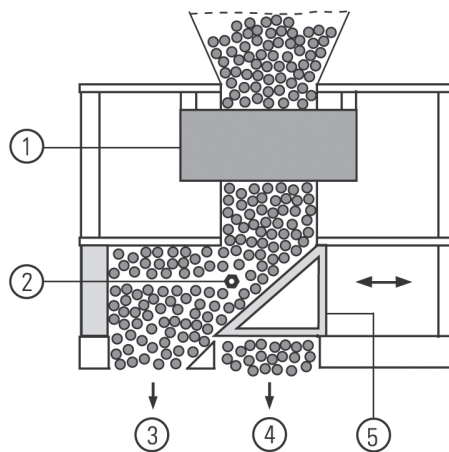
Even the smallest metal particles in molten plastic can cause expensive and time consuming damage to extruders, injection and blow molding machinery. As the use of plastic regrind increases, so does the probability of metal contamination, causing blockages in nozzles and valve gates resulting in downtime, shipment delays and product contamination. With only slight modification, these metal separators can be used in free-fall applications.

PERFORMANCE FEATURES

Model CF Metal Separators offer the following performance features:

- Excellent metal detection, maximum resistance to interference and high mechanical and operational reliability
- Automatic self-calibration and ongoing self-monitoring and temperature adjustment
- Fully automatic process
- Effective and reliable removal of metal contaminants, even with high levels of regrind
- Metal contaminants are removed into a reject material container by means of a separating slide
- Bleeders and hoppers can be attached to the detection and separation unit
- The pneumatically-driven reject system works so quickly that metal particles are consistently removed from free-falling granules not only at the initial fill, but also at subsequent top-ups

Model CF Metal Separators are available in the following standard pipe diameters: 2.75" (70 mm), 3.94" (100 mm), 4.72" (120 mm) and 5.91" (150 mm).



- 1) Detection coil
- 2) Metal contaminant
- 3) Reject outlet
- 4) Good material outlet
- 5) Separating slide



FEATURES & BENEFITS

- Detects and removes even the smallest metal particles from regrind and virgin material
- Reduces machine downtimes and costly repairs, providing a rapid return on investment
- Ensures constant production process parameters
- Installed directly above the material feed throat
- Product effect compensation: intrinsic conductivity of bulk materials (e.g. from moisture or carbon) can be "tuned out" automatically

Model CFP

Eriez' Model CFP Metal Separator is installed directly above the material feed throat of an extruder, injection molding or blow molding machine. It offers high sensitivity to all metal types and operates successfully with all plastic pellet material loading systems.

PRINCIPLE OF OPERATION

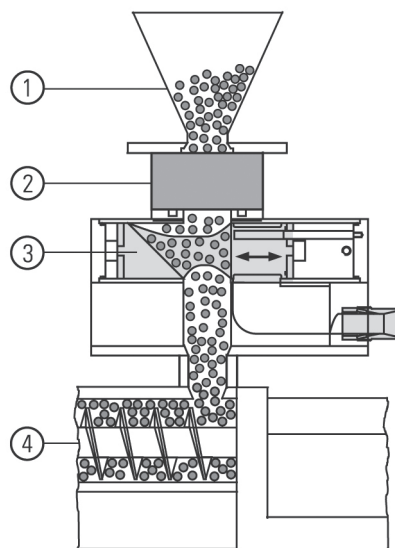
Even the smallest metal particles in molten plastic can cause expensive downtime and damage to extruders, injection and blow molding machinery. As the use of plastic regrind increases, so does the probability of metal contamination, causing plugged hot runner tips, nozzles and valve gates.

PERFORMANCE FEATURES

- High mechanical stability and maximum resistance to interference delivers excellent metal detection (as small as 0.3 mm ferrous) and operational reliability
- Automatic self-calibration, continuous self-monitoring and temperature adjustment
- Fine tuning the metal separator to achieve optimal scanning sensitivity and reject duration ensures the entire process is fully automatic with no interruption in the flow of material
- Patented reject mechanism ensures effective and reliable removal of contaminants
- Metal contaminants are removed by means of a separating slide and a Venturi nozzle via a flexible hose into a reject material container
- Mixing or dosing equipment can be attached to the detection and separation unit
- The support frame supports off-center loads especially with injection unit travel.
- The pneumatically-driven reject system works so quickly that metal contaminants are consistently removed from freefalling particles

not only at the initial fill when the product is moving quickly, but also when it is slowly moving

Model CFP Metal Separators are available in the following standard transit pipe diameters: CFP30 1.11", CFP40 1.43", CFP50 1.83" and CFP60 2.34".



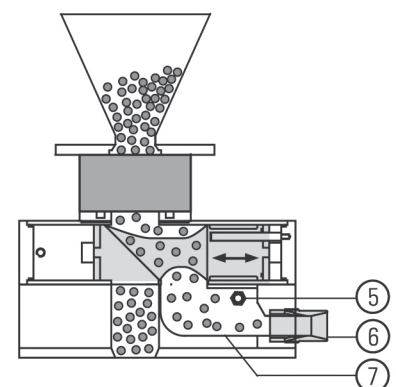
Production - no metal contaminants

- 1) Material Hopper
- 2) Detection coil
- 3) Separation unit
- 4) Processing machine



FEATURES & BENEFITS

- Removes even the smallest metallic impurities from plastic resin
- Even removes pellets with encapsulated metal particles
- Improves product purity
- Increases mold and machine uptime
- Operates with a slow moving or standing column of material
- Separator mounts directly above the material feed throat
- Product effect compensation for conductive bulk materials
- Patented reject mechanism ensures effective and reliable removal of contaminants



Separation of a metal contaminant

- 5) Metal contaminant
- 6) Venturi nozzle system
- 7) Reject outlet

Model FF

Metal Separator for Free-fall Applications

The Model FF Metal Separator is used to inspect bulk goods under free-fall conditions. It detects all magnetic and non-magnetic metal contamination (steel, aluminium, brass, stainless steel) – even when enclosed in the product. Metal contaminants are rejected through the “Quick Flap” reject unit. The Model FF is used mainly in industries with non-sanitary applications.

PERFORMANCE FEATURES APPLICATIONS

- Separate detection and reject unit
- Simple, adjustable sensitivity control panel
- Position of reject can be turned to match position of collecting tray
- Automatic or manual product compensation allow flexible adaption to product conductivity
- Pre-installed parameters for simplified operation
- High scanning sensitivity to all metals
- Minimizes product loss through “Quick-Flap” rejection system
- Low installation height; the metal separator can be easily fitted into existing pipeline systems
- Standard Jacobs adaptors for inlet and outlet ensure quick, hassle-free installation
- Enhanced signal-to-noise ratio minimizes electromagnetic pollution, vibrations and conveyor belt distortion

OPTIONS/ACCESSORIES

- Audible and visual alarm systems
- Feed hopper and filler inlet
- Digital reject counter
- Air pressure monitor
- Magnet system to remove ferrous contaminants
- High temperature resistant
- Special design for abrasive bulk goods
- UL/CUL Certification
- Removable control unit

- Machinery protection for extruders, injection molding, blow molding and fine grinding mills
- Quality control for inspection of outgoing goods, granulate, reclaim, bagging stations, dryers and packing stations

Model FF Metal Separators are available in seven standard pipe sizes: 1.06" (27mm), 1.73" (44mm), 2.69" (67.8mm), 3.89" (99mm), 5.9" (150mm), 7.87" (200mm) and 9.84" (250mm).

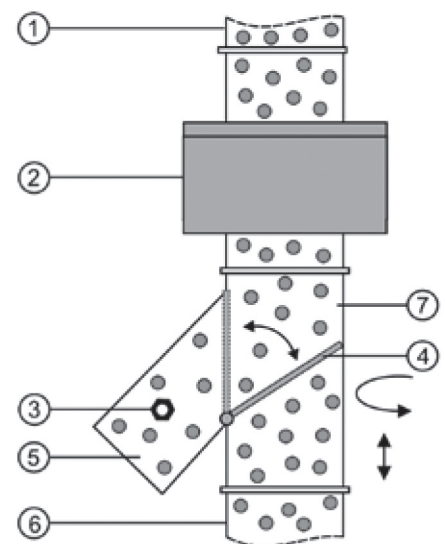
SCOPE OF DELIVERY

- Metal separator with separate detection and reject valve (mounted via standard Jacobs adaptors)
- Maximum material free fall height should be 19.69" without a deflection



FEATURES & BENEFITS

- Detects and separates magnetic and non-magnetic metal contamination, even when encapsulated in the product
- Reduces expensive machinery failure and minimizes production downtime
- Ensures product quality
- Prevents customer complaints



- | | |
|------------------------|--|
| 1) Infeed | 5) Reject outlet |
| 2) Detection coil | 6) Good product outlet |
| 3) Metal contamination | 7) Separation unit (turnable, removable) |
| 4) Separation flap | |



WORLD AUTHORITY IN SEPARATION TECHNOLOGIES

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