PRODUCT BULLETIN

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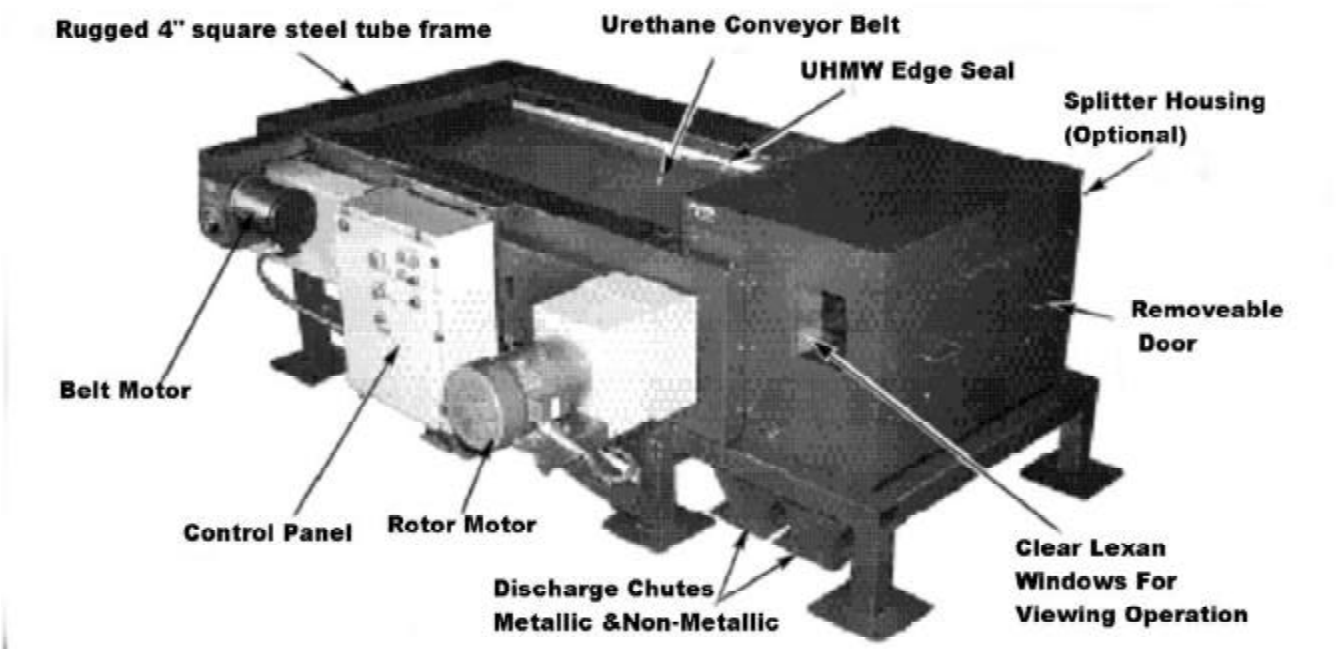
EDDY CURRENT SEPARATORS



CONSTRUCTION

Commingled material is fed onto the conveyor belt of the eddy current separator. The material is conveyed over a spinning magnetic rotor where separation occurs. The two streams of material discharge over and away from the separator.

The main component of MPI's Eddy Current separator is the magnetic rotor which uses a series of permanent rare earth magnets mounted to a plate, which in turn are attached to the motor driven shaft. These magnets are covered by a fiberglass shell with ceramic tiles that reduce wear and allows the conveyor belt to ride over it. Inside the shell is a stainless steel cover that encapsulates the magnetic rotor which is spinning independently and much faster than the triple layered shell and belt.

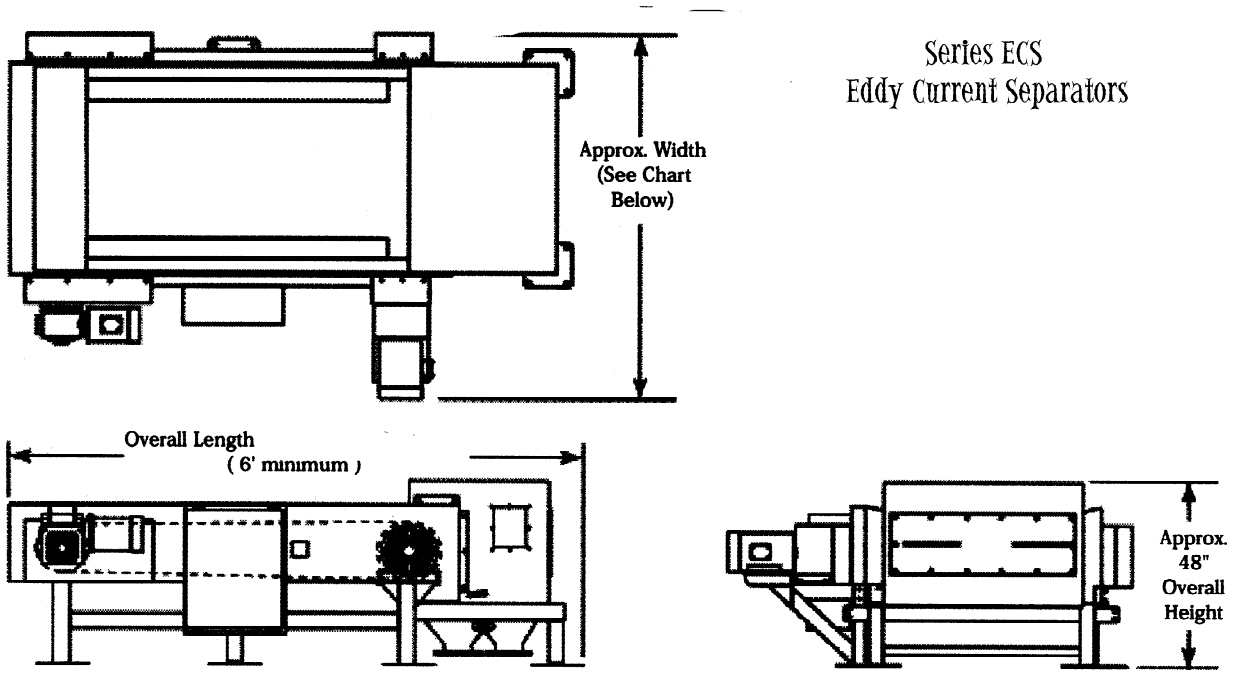
When product, such as aluminum, passes over the shell, the spinning magnets inside the shell generate an eddy current in the aluminum thus creating a magnetic field around the piece of aluminum. The polarity of the magnetic field of the aluminum is the same as the rotating magnets, causing the aluminum to be repelled away from the separator. Product such as plastic, glass, or other process materials simply fall off the end of the separator.

• Contains the highest grade of permanent rare earth magnet material. Will not demagnetize

• Oversize rotor bearings for longer life
• Balanced for a smooth trouble free operation
• Wear-resistant ceramic coating on fiberglass shell
• Stainless steel magnetic rotor cover
• L a rge 7 Z \ x hp rotor motor spins the magnetic rotor at high speed
• Fixed rotor motor speed for optimum separation Conveyor Belt and Drive
• Urethane belt for high wear resistance
• “V” groove tracking with flexible sidewalls for positive belt tracking.
• Thermowelded cleats move burden efficiently, reducing belt wear.
• Fixed speed 3 hp motor producing 200 fpm belt speed. Motor Control Panel
• Easy-to-operate with main circuit switch, “Start/Stop” push buttons, emergency stop button, and indicator lights. NEMA 4 enclosure.
• Soft start and programmable breaking with AC Inverter Separator Housing
• Housing is 11 gauge stainless steel with heavy-duty 4-inch sq. tubing, with gussetted fabricated braced steel frame
• Access doors and lexan windows for easy inspection/maintenance.
• UHMW side edge seal keeps burden confined to belt

SELECTION

An MPI eddy current system can be put to use to separate aluminum, die-cast metal, or copper from non-metallic material. Nonferrous metals that are exceptionally conductive and lightweight are easiest to separate since they permit for the creation of magnetic polarity the same as the magnetic rotor, thus repelling away from the magnets. Additional other nonferrous metals are recoverable, likewise, depending on their alloy content and particle size. Based on your application, our customer service department can size and select an eddy current model to your exact specifications. Include with your inquiry type and density of your material, tons per hour processed (including average and peak rates), and any other information about your application that needs to be considered.

Model Numbers	Capacity Approximate	Usable Belt Width	Apx. Overall Width	Drive Motor HP	Rotor Motor HP
ECS-10	1 TPH	10”	60”	1	3
ECS-20	4 TPH	20”	76”	1.5	3
ECS-30	6 TPH	30”	86”	2	5
ECS-40	8 TPH	40”	96”	3	7.5

General Layout Dimensions of the Series ECS Eddy Current Separators