EDDY CURRENT

MPI’s proven eddy current technology ensures higher separation rates. State-of-the-art system controls and features combined with technological advances result in improved nonferrous metal removal, particularly when trying to separate smaller particles such as aluminum and brass from non-conductive waste streams. Eddy Current Separators (ECS) can be used wherever nonferrous metals have to be recovered or separated. Common applications include:

- Trash and Municipal Waste Processing
- Auto Shredding
- Beverage Can Sorting
- Glass and Foundry Sand Recovery
- Window Recycling
- Plastic Recycling
- Scrap Wood Recycling

Complete Application Form for Quote

How It Works

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 (ECS Series) 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 allow the conveyor belt to ride over them. The magnetic rotor spins independently and at a much faster rate than the conveyor belt pulley. 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, which causes 1) the aluminum to be repelled away from the separator beyond the product flow trajectory and 2) separation of the aluminum from the rest of the product being conveyed. Product such as plastic, glass or other process materials simply fall off the end of the separator.

MPI Difference

Maximum Strength

- Non-conductive, corrosion resistant drum shelf
- Ultra-high-strength magnetic rotor provides maximum efficiency
- High throughput for high yield
- Highest grade of permanent Rare Earth magnet material ensures maximum field strength -- magnets will not demagnetize
- Large motor spins magnetic rotor at high speeds
- Fixed rotor motor speed allows optimum separation
- High sorting accuracy
- Fixed speed motor produces 200 FPM belt speed

Easy Operation

- Balanced magnetic rotor and drive for trouble-free operation
- Control unit integrated onto machinery
- “V” groove tracking with flexible sidewalls for accurate belt tracking
- Easy-to-operate control panel with main circuit switch
- “Start-stop” push buttons, emergency stop button and indicator lights. NEMA 4 enclosure
- Access doors for easy inspection and maintenance
- UHMW side edge keeps burden material confined to belt

Maximum Durability

- Oversized rotor bearings
- Tough urethane belt
- Thermo-welded cleats move burden efficiently, reducing belt wear
- Control panel with soft start
- Programmable breaking with AC inverter
- Composite shell coated in corrosion resistant material

Specifications

Eddy Current Model #	Approximate Capacity	Usable Belt Width	Approximate Overall Width	Drive Motor Horse Power	Rotor Motor Horse Power	Rotor Motor Diameter*

ECS-20	4 Tons/HR.	20"	78"	1.5	5	12"
ECS-30	6 Tons/Hr	30"	89"	2	7.5	12"
ECS-40	8 Tons/Hr	40"	99"	3	10	12"
*An extra large Rotor Motor Diameter of 16" is available on all ECS models						

Videos