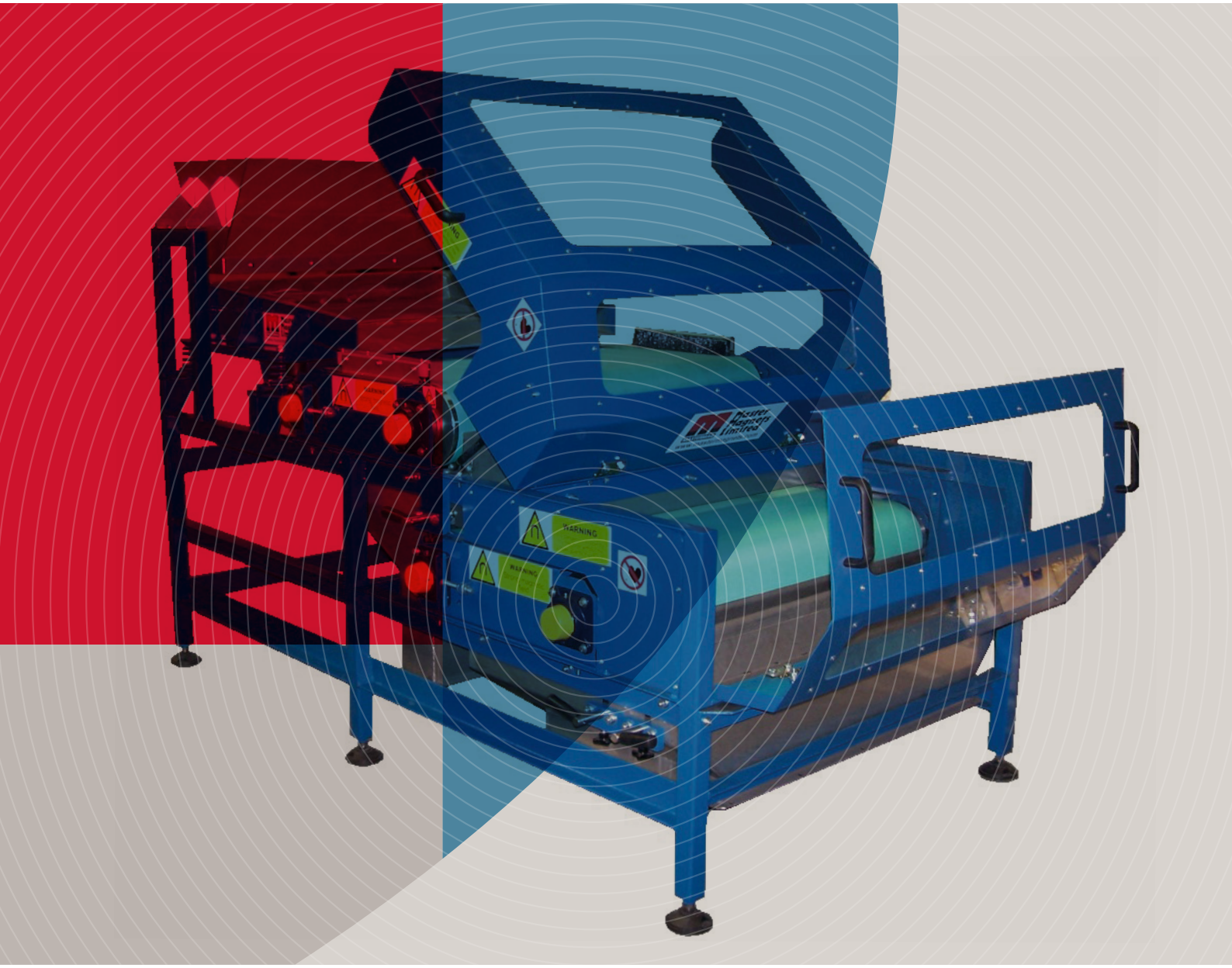
BUNTING®

GLOBAL. MAGNETIC. FORCE.™

Rare Earth Roll Separators



Permanent High Intensity Magnetic Roll Separator

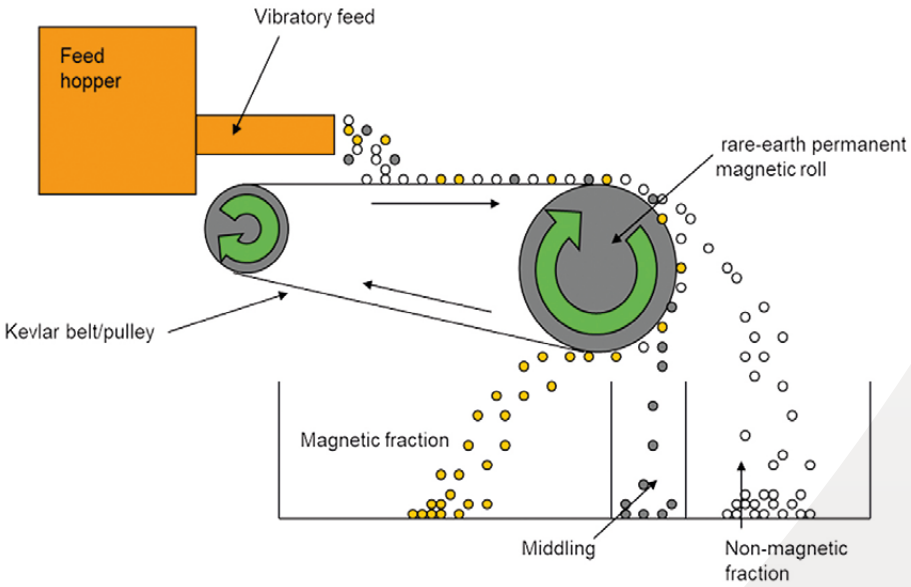
The Bunting Rare Earth MASTEROLL incorporates Neodymium Iron Boron permanent magnets, which are the most powerful magnets available and are built into a composite high-intensity magnetic head pulley.

High separation efficiencies are generated by the design of the magnetic roll assembly utilising high grade neodymium magnets and the optimum pole spacing to generate high magnetic field strengths and magnetic field gradients to maximise the magnetic force exerted on a paramagnetic particle as it passes over the roll.

The material to be treated is fed by a vibratory feeder onto a short centred thin conveyor belt, which presents an even feed of material onto the magnetic roll.

Typical Applications include the removal of iron mineral contamination from silica sands, feldspar and other industrial minerals.

Processing of granulated slag, ilmenite upgrading, beach sand processing, and recycling applications such as crushed glass. Typical capacities range from 2-4 tph depending on the specific application.



Typical Applications:

- Ceramic powders upgrading
- Granulated Slag
- Plastics
- Ilmenite concentration
- Removal of paramagnetic particles from feldspar and quartz sand
- Concentration of Garnet
- Purification of refractory materials

Principle of operation of MASTEROLL Magnetic Separator

As non-magnetic material is discharged forward of the roll in the natural trajectory, any magnetic particles present are influenced by the magnetic force generated by the roll and are discharged down a rear chute as the belt leaves the magnetic field on the underside of the roll. Separation trajectories are set by adjusting the conveyor speed using the inverter control setting on the control panel and adjusting the splitter chutes.

The front magnetic pulley consists of a series of powerful magnetic discs and spacers, designed to give high field strength and gradient on the surface of the belt. These can be specifically design for each application to allow maximum separation efficiency for the particle size range being processed.

Magnetic rolls are available in 75mm, 100mm, 150mm and 200mm diameters, up to a width of 1 metre. Multiple configurations of rolls are offered giving the non-magnetic fraction a further pass for improved product purity. The unit can process a wide size range of material ranging from 75 microns up to 15mm. Although, as with all physical separation processes, the narrower the size range the more efficient the separation will be.

Key Facts: MASTEROLL

- **Large particle size range processed (15mm-75 micron)**
- **Roll design gives high magnetic flux gradient hence high separation efficiency** (Various roll diameters available)
- **Low operating costs**
- **Small machine footprint, easy to install**
- **Capable of high capacities per metre depending on application**

X-RAY FLUORESCENCE ANALYSIS (XRF)

X-ray fluorescence (XRF) is the emission of characteristic secondary (or fluorescent) X-rays from a material that has been excited by being bombarded with high-energy X-rays or gamma rays. The phenomenon is widely used for elemental analysis and chemical analysis, particularly in the investigation of minerals, metals, glass, ceramics, and building materials.

At our Bunting – Redditch test facility we can provide comprehensive chemical analysis of metal, mineral and soil samples by identifying elements such as Mg, Al, Si, P, S, Fe. It is also capable of precious metal and rare earth element analysis. This enables our technicians to make detailed and accurate recommendations on magnetic separation requirements and propose process flowsheet options to the customer.

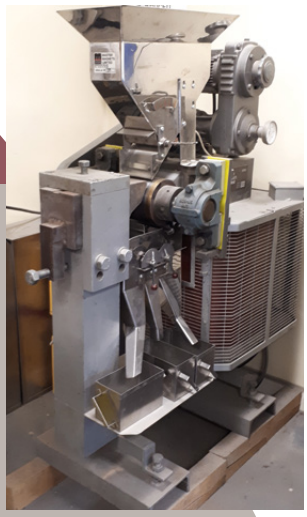
LABORATORY SAMPLE TESTING SERVICE

To arrive at the best separation criteria, Bunting uses a fully equipped laboratory for material testing to ensure optimum equipment selection. Customers are invited to submit samples for testing and evaluation, to ensure that separation performance can be measured, with all the results and process recommendations being submitted for the client's approval. Initial trials are normally carried out free of charge and customers are encouraged, if practicable, to participate in the testing and processing procedure.

In addition, Bunting have an established a working association with the Centre for Critical and Strategic Metals at the University of Birmingham. This link provides access to an extensive range of mineral processing and recycling facilities and additional expertise.

Bunting has over sixty years experience providing innovative magnetic solutions to industries involved in recycling, demolition and reclamation, mining and quarrying, food processing, ceramics production and powders and minerals processing. The Bunting range of systems are known for their high performance and reliable operations.

Please visit our Website at www.mastermagnets.com to view our full range of Equipment where brochure and video downloads are available.



For more information on our full range of products please contact us on the contact details below.

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