

DRY MAGNETIC ROLL SEPARATORS



**SERIOUS
ABOUT
SERVICE**



MALVERN
ENGINEERING

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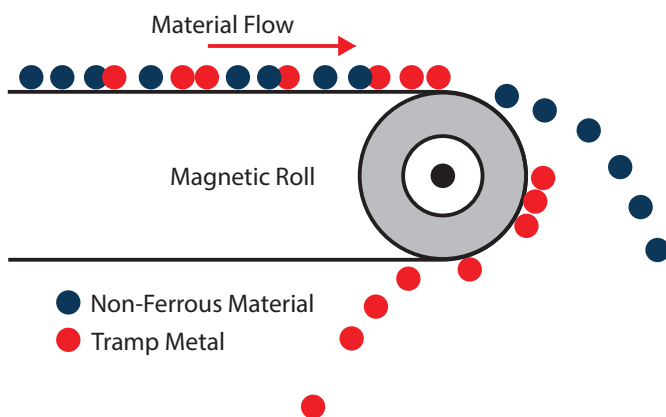
DRY MAGNETIC ROLL SEPARATORS

Malvern Engineering Works, South Africa, offers high and low intensity magnetic roll separators required in the mineral, pharmaceutical and chemical industries.

Using over 75 years of process knowledge, computer added magnetic modeling software and in-house laboratory facilities, Malvern are able to offer flexible and cost-effective machines to suit our customer's needs and objectives.

APPLICATIONS

- Separation of weakly magnetic materials from non-magnetic feed streams (Silica/Quartz).
- Separation of Ilmenite / Garnet / precious stones from feed material in Heavy Mineral sand applications.
- Removal of ferrous contamination from raw materials used in the manufacture of ceramics and refractories.
- Special applications in the food Industries.
- Pharmaceutical and Chemical Industries.



Magnetic Separator Benefits:

- Low iron content
- Better operating control
- Significantly lower operating costs
- Environmentally safe operations
- Rapid return on investment

DESIGN FEATURES

The design of a rare earth roll magnetic separator consisting of a rotating drum made of rare earth magnetic material, mostly neodymium-iron-boron (NdFeB), ensures the optimum combination of magnetic field strength and magnetic gradient to give the most effective separation.

MAGNETIC ROLL TYPES

- **Low Intensity:** Ferrite magnets are mainly used for scalping more magnetically susceptible particles before feeding the material into the high-intensity rare earth magnetic rolls.
- **High Intensity:** Rare earth magnets are used for cleaning non-magnetic materials that have ferrous contaminations or to concentrate magnetic material in which non-magnetic particles like

MAGNETIC ROLLS

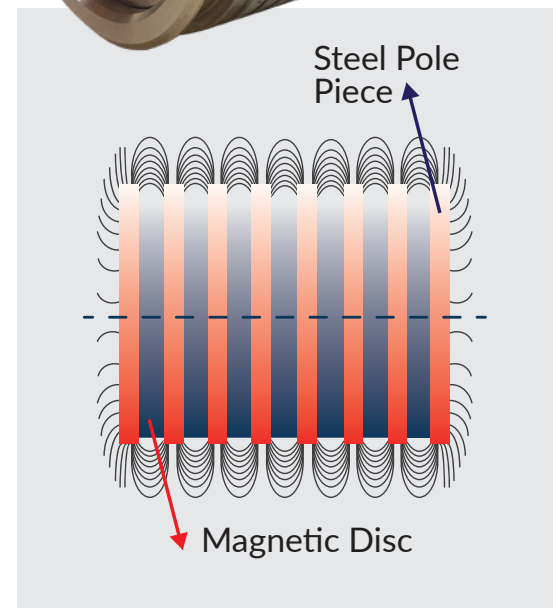
- Roll Diameters: 100mm, 150mm, or 300mm
- Roll widths ranging from 125mm to 1.5 meters
- Available in single or multiple stage configurations (mag re-run or non-mag re-run)
- RE rolls magnetic intensity range: 11000-13000G.
- Ferrite rolls mostly used as scalpers, with ranges of 2000-2500G.
- Magnetic circuit optimisation using Magnetic FEA software.
- Low and High Intensity permanent magnets.

MATERIAL FEED SYSTEM

- Roll and Vibratory Feeders with speed control.
- Feeder Drive options: Electric motor, Vibrating Motor and electro-magnetic.
- Material of construction to suit the specific application.

BELTS

- PTFE / Teflon - Coated.
- Polyurethane.

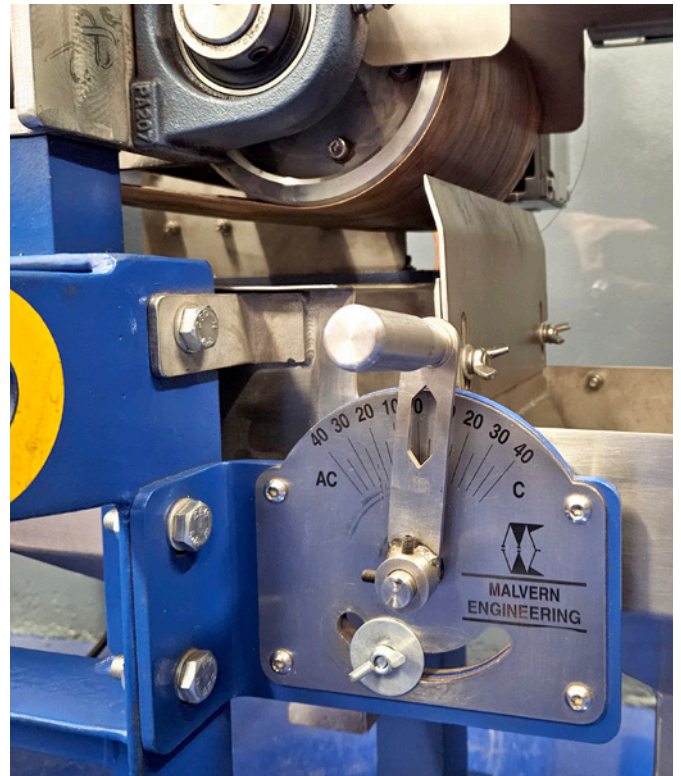


DRIVES & CONTROLS

- Independent direct drives for each roll.
- Design flexibility allows for Control Panels which can include: Variable speed drives, speed displays, zero Speed Switches, feed temperature indicator and emergency stop.

HOUSING

- Enclosures generally manufactured in mild steel, Stainless Steel and dust-free housings are available for special food/pharma and mineral applications.
- All material contact surfaces supplied in stainless steel.
- Mechanically adjustable splitters with graduated scales.
- Housings provide for the connection of the client's dust extraction systems to the machine.
- Interlocked doors provided for safety.
- Discharge chutes - Mild Steel or Stainless steel.
- Design flexibility allows for multiple product splitters and corresponding outlets, inspection / maintenance access points.



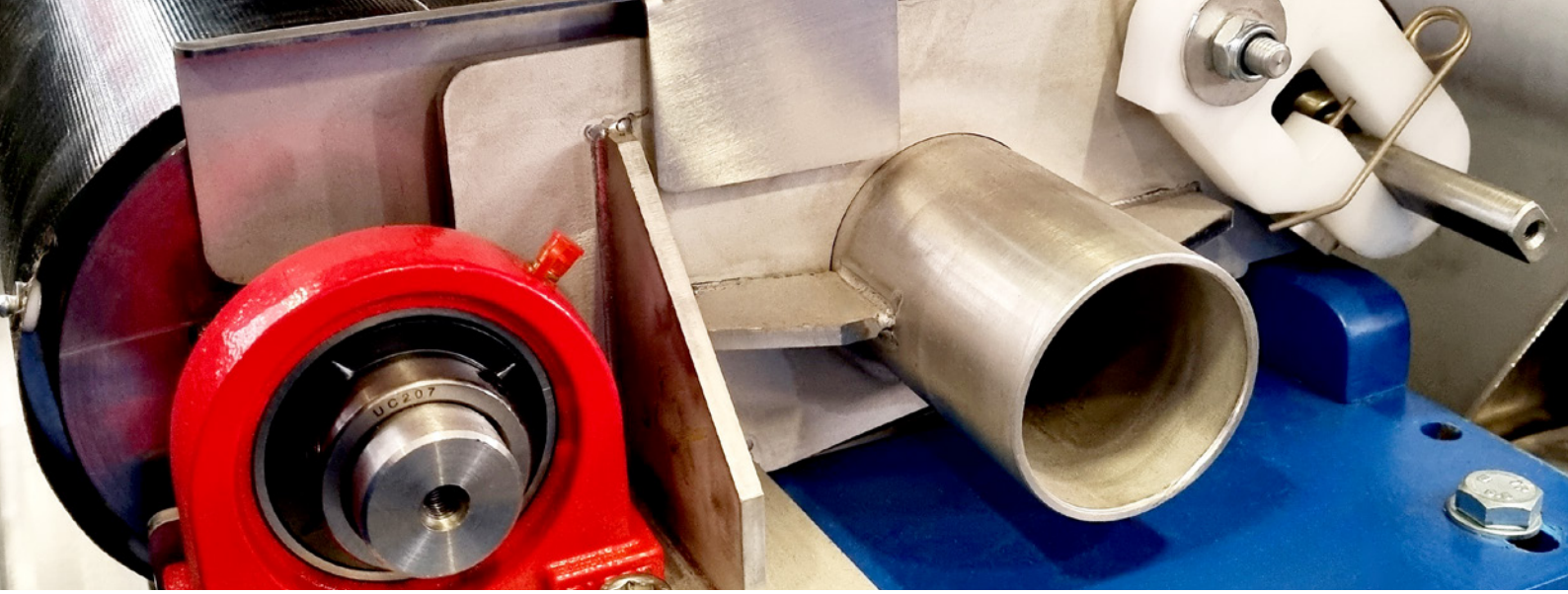
LABORATORY TEST FACILITIES

Malvern Engineering has a well-equipped laboratory located at the Johannesburg Head Office. This facility allows for the quick and efficient testing of customer samples in a controlled environment.

FIELD TRIALS

Malvern Engineering is able to supply tailor made pilot scale machines for on-site field trials fully supported by trained and experienced technical staff.





SITE LOCATIONS



MALVERN
ENGINEERING

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