



 MAGNETIC SEPARATION

mtWHIMS

The most selective WHIMS. Better recovery at higher grades, with uninterrupted availability.

How it works

Better recovery at higher grades ...

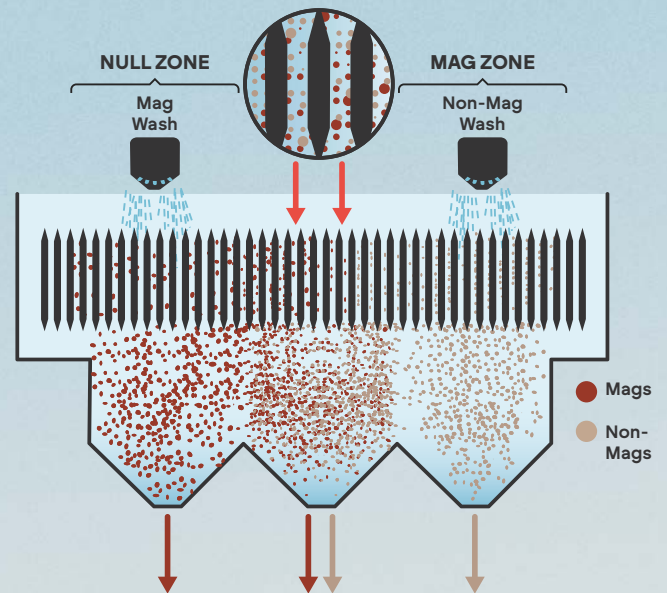
The most selective WHIMS. Product grade climbs without trading away the recovery other machines lose.

Recovering paramagnetic minerals from slurry

Technical Features

The READING WHIMS is a wet high intensity magnetic separator that sorts on magnetic susceptibility alone, with no regard for density, size or colour. A ring of sixteen independently fed DC electromagnetic coils surrounds a rotating salient plate matrix, generating a field variable up to 13,000 gauss and the sharp field gradients that weakly magnetic particles actually respond to.

- Highly selective separation
- Field variable to 13,000 gauss
- Eight independent feed points
- Up to 90 tph per machine
- Two or three product streams
- Air blast coil cooling, no process water



Inside the WHIMS

A WHIMS takes a slurry and splits it in two using nothing but a magnetic field and water. A ring of sixteen DC electromagnetic coils surrounds a rotating matrix of serrated steel plates.

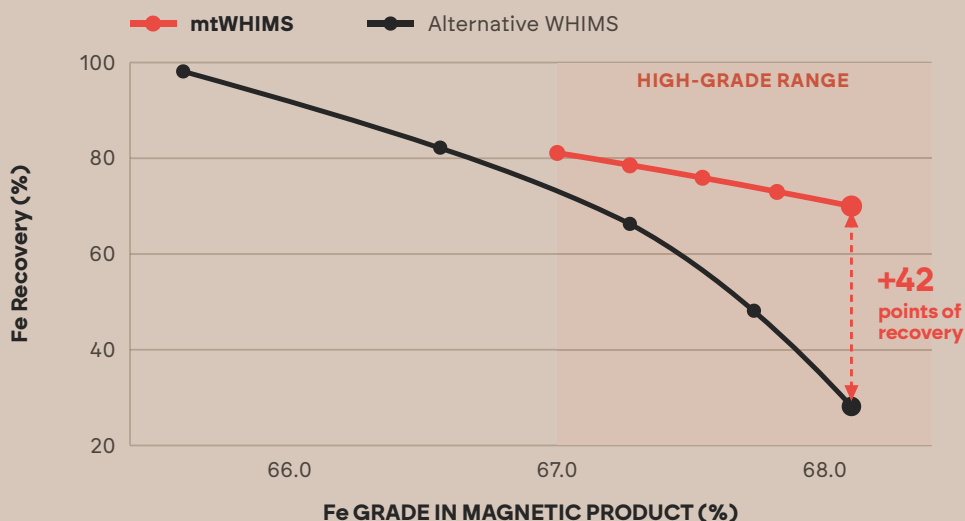
The coils are wired so the poles alternate in pairs, eight north and eight south, which gives the ring eight high field zones and eight dead zones in strict alternation.

Iron Ore Cleaner – Use Case (example)

Product grade: 68.1% Fe

Recovery there: 70 % vs 28 %

Feed: 64.2 % Fe



Comparative test work, same deslimed iron ore feed. Pushed toward high product grade, the alternative machine sheds recovery; the mtWHIMS holds it: 70 % Fe recovery at 68 % Fe against 28 %.

Iron ore and tailings recovery

Cleaner stage duty, and scavenging fines from gravity separator tails to recover fine iron that would otherwise be lost.

- Fine iron recovery
- High purity silica sand
- Tailings scavenging
- Chromite

Mineral sands operations

- Ilmenite recovery



Highly Selective

Sharp field gradients sort on susceptibility alone, so product grade climbs without surrendering recovery.



Uninterrupted Availability

Each coil is fed independently, so a single coil failure costs one feed point of eight rather than a quarter of the machine.



Tuned to Your Ore

Rotor width, matrix geometry and operating amperage are set by test work on your own material, not a catalogue selection.

mtWHIMS Configurations

Mineral Technologies offers READING WHIMS across a range of pole counts and rotor widths to suit capacity and duty.



Models and typical use

16P	The production standard, eight feed points
4P	Small scale, including laboratory machines

Rotor width and nominal capacity

Narrow, 68 mm	Up to 30 tph
Wide, 120 mm	Up to 60 tph
Extra wide, 200 mm	Up to 90 tph

Specifications

INPUT

Feed type	Slurry
Magnetic field	Variable to 13,000 gauss
Feed points (16P)	8, independently fed

OUTPUT

Products	2 standard, 3 optional
Launder rotation	360 degrees
Product streams	Mags, non-mags, middlings

MACHINERY

The separator
Electrical control panel, DC supply to sixteen coils, PLC
Air blast heat exchanger, one per machine

INCLUSIONS

- Low ripple thyristor controller
- Independently fed coils
- Polyurethane boil boxes
- 3 product catch box (option)
- Dual wash water systems
- Salient plate matrix



**We start with
the mineral** not the equipment.

FACT: No two ore bodies behave the same. That's why one-size-fits-all solutions rarely deliver the best recovery.

Let us help you discover your ore body's Mineral DNA, and whether WHIMS is the right technology to recover more of what matters.

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