MARS™

Metal **A**utomated **R**emoval **S**ystem

REALtimeINSTRUMENTS

AUTOMATED TRAMP METAL REMOVAL

The **MARS™** is a rugged, state-of-the-art machine that mounts on the conveyor (at practically any location) downstream from a metal detector. When the detector senses tramp metal in the bulk material on the belt, it sends a signal to the MARS™. When the metal reaches the MARS™, the MARS™ automatically lowers its angled plough blade to flatten the belt and divert the metal, along with a small amount of material, off the conveyor. Once the tramp metal is discharged, the MARS™ raises its plough blade to allow for normal material flow. The entire process takes only seconds.

- Unlike a magnet, the MARS™ removes all types of metal.
- Unlike a metal detector, the MARS™ automatically removes the metal without stopping the belt (no downtime, no human error).

MARS™ is so cost effective, it typically pays for itself in less than a year

BENEFITS OF THE MARS™

- **Increased Productivity:** *Produce the same amount of materials in less time.*
- **Prolonged Asset Life:** *Protect processing equipment; increase life of belts and motors*
- **Reduced Maintenance Costs:** *Eliminate tramp metal related breakdowns and repairs*
- **Improved Quality:** *Improve product consistency, tighten specifications, reduce waste.*
- **Improved Service:** *Eliminate equipment breakdowns, improve plant reliability.*
- **Improved Safety:** *Reduce potential for injury.*
- **Improved Plant Performance:** *Reduce costs and increase profits.*

FAQ'S

- **Will the MARS™ work on my conveyor?**
  The MARS™ is custom designed to fit all belt widths and speeds conveying any type of bulk material.
- **Will the MARS™ remove non-ferrous metal?**
  Because the MARS™ works in conjunction with a metal detector, it can remove non-ferrous and ferrous metals unlike the use of magnets or metal detectors alone.
- **Will the MARS™ remove clusters of tramp metal?**
  If a second piece of metal is detected close to the first piece or if a cluster of tramp metal is detected, the MARS™ controls will determine how long the blade must remain down in order to discharge ALL the metal from the belt.
- **How much material is discharged with the metal?**
  Because the MARS™ cycle takes only a few seconds, a minimum amount of material is discharged. For example, on a belt running 1,000 tons per hour, only about a half a ton of material is discharged per cycle.
- **Will the MARS™ damage the belt?**
  No. The MARS™ is custom designed to operate safely on all belt widths and speeds. The edge of the MARS™ plough blade is padded with industrial grade rubber. In addition, the MARS™ flattening/slider bed, which replaces the idler units and continuously supports the belt underneath the MARS™, is equipped with UHMW material.



General Specifications

MARS Models: SBF 20-4L/R to SBF72-4L/R

PHYSICAL	
Dimensions	3.6m Long x (belt width + 30mm) x 2m High
Weight	900 to 1,200kg
Structure	Welded Mild steel frame
Finish	First coat: Zinc Rich primer Second coat: Polyurethane twin pack epoxy
Electrical	
Power Supply	- 120 / 220Vac - 50/60Hz Single phase - 50VA
Enclosure	NEMA 12
Controls	- Cycle Delay (adjustable) - Cycle Duration (adjustable) - Shift Register (multiple hits from metal detector overrides - durations and ensures removal of multiple metal) - 12 V supply to metal detector relay (dry contact required from metal detector)
Functional	
Cycle time	3-5 seconds (Adjustable) Blade lower & return
Alarm	120db warning alarm
Air Pressure	620kPa minimum