



SGM SCRAP CLEANING LINE

SGM solution for the removal of dirt
and non-ferrous metals from HMS (Heavy
Melting Scrap).



OUR SOLUTION

SGM Scrap Cleaning Line (SCL) for HMS

Typically, HMS contains between 6-12% of contaminants which negatively impacts on:

- Furnace yield and electricity cost per ton of ferrous produced
- Production of slag
- Consumption of Lime

The main goal of the Heavy Melting Scrap preparation (HMS) process is to improve the quality of steel scrap.

The SGM Scrap Cleaning Line for HMS reduces the contaminants to less than 1%.

This results in a scrap quality with a considerably higher Fe content and a reduced NF content (especially copper and aluminum).

SGM has dedicated a specific study to the HMS cleaning process, from screening to scrap recovery, managing to significantly improve the quality, and ensuring greater flow and productivity.

The savings on electricity and higher furnace yield alone, can result in a pay-back of less than 12 months based on a minimum of 300,000 tons of HMS processed per year.

The 6 to 12% of non-ferrous removed from the HMS can be sold to metal recyclers for their typical valuable non-ferrous metal content.

TECHNICAL SPECIFICATIONS

- Designed for maximum robustness and heavy duty.
- Charging hopper.
- Vibrating feeder completed with de-dusting screen.
- Extremely strong proprietary electro-drum magnet with special radial polarities allowing a larger distance between the feeder end and drum surface, consequently maximizing the liberation of contaminants.
- Available in three sizes: 50, 100 and 150 tons per hour of HMS.
- Can be supplied as a complete solution or in modular parts.

- ① Charging Hopper
- ② Vibrating Feeder + De-dusting Screen
- ③ Drum Magnet
- ④ Structure
- ⑤ Ferrous Belt Magnet

THIS SOLUTION IS IDEAL FOR A WIDE RANGE OF USERS:

- Steel mills and foundries benefit from cleaner scrap and more efficient operations;
- Scrap processors increase the value of HMS by delivering a premium-quality product;
- Heavy-duty recycling facilities optimize resource recovery and reduce waste.



HMS
6-12% CONTAMINANTS

Vibrating Feeder +
De-Dust Screen

→ Magnetic Dirt
and Dust

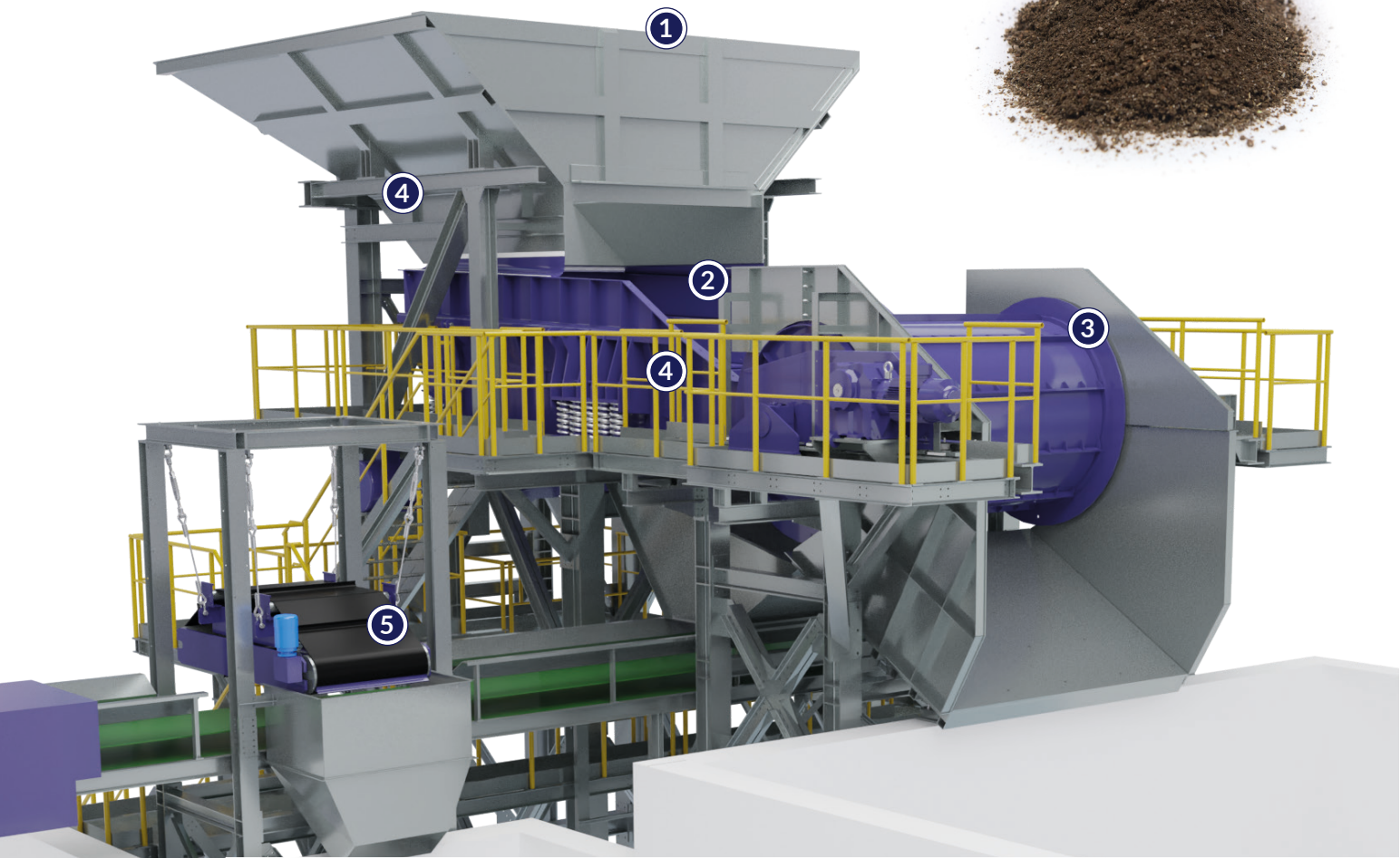
Drum Magnet

→ Inert+NF Metals

↓
Clean HMS
<1% Contaminants

Part of the contamination in scrap is made of non-ferrous magnetic dirt and dust. The purpose of the SGM Magnetics Dedust screen is to allow non-ferrous dust and contamination to drop before it gets close to drum magnet.

Dust, Fines



MODEL	OVERALL LENGTH	OVERALL WIDTH	OVERALL HEIGHT
50 t/h	12456 mm - 40.8 ft	9000 mm - 29.5 ft	10500 mm - 34.4 ft
100 t/h	12994 mm - 42.6 ft	9000 mm - 29.5 ft	10500 mm - 34.4 ft
150 t/h	13294 mm - 43.6 ft	9000 mm - 29.5 ft	10500 mm - 34.4 ft

KEY EQUIPMENT: TME DRUM MAGNET

The heart of every Scrap cCleaning Line is the MAGNETIC DRUM. The 'Attractive Power', which is the heuristic name for the Magnetic Field, is necessary but not enough TME unique features:

- Robustness.
- Ability to process any shape of scrap.
- Wear Resistance.
- Homogeneity of the magnet field.

And many other features based on customers' needs, expectations and raw material availability.

The drum magnet with transversal polarities guarantees maximum strength for the overturning of big ferrous pieces and a homogeneous magnetic field along one half of the drum circumference. We call it TME and results in a much larger reversal capacity.



CUSTOMER'S TYPICAL FEEDBACKS

Increased efficiency in scrap purchasing.

- Cost-effectiveness: precise data on the amount of waste in the scrap.
- Profitability: the data allows an increased contact force for buying.
- Flexibility: buy low quality scrap at a lower price, the scrap cleaning system will bring low quality scrap to high quality.

Possibility of waste reselling:

- Getting Value from Waste.
- Waste Material is typically rich of Aluminium, Copper, Zinc, Lead etc which can be sold to third Parties which are separating it.

As an alternative, SGM offers the Eddy Current Separator to recover the non ferrous metals contained in the waste stream of the scrap cleaning system.

TYPICAL IMPURITIES

Inert, Dirt, Non Ferrous: Typically 6-12% in Weight of Scrap Purchased.



SGM SOLUTION FOR THE REMOVAL OF DIRT AND NON-FERROUS METALS FROM HMS

CUSTOMERS' BENEFITS:

- Ready for feeding into the EAF.
- Significant reduction of slag (5-8 %).
- Yield increase, due to inert removal (88,81% Vs. 87%).
- Increase of productivity and steel quality.
- Reduction of power consumption.
- Reduction of consumables (additives).
- Reduction of emissions.
- Recovery fraction from screened fines ready.
- for feeding into the EAF.
- Short ROI (less than 1 year) depending on market conditions.



Release: April 2025

- 70** Years in business
- 9** Fully owned subsidiaries
- 2** Manufacturing and repair facilities

SOME SGM REFERENCE



SGM WORLDWIDE

Always available, near you, in your language.

The SGM business model is based on providing state-of-the-art technology products, expertise and proximity to its customers through a network of SGM Magnetics-owned subsidiaries based in Italy, Germany, the United Kingdom, Belgium, the United States, China, Mexico, India and Japan.

In most of the countries SGM disposes of partnerships with agents with a long and proven track record in SGM products and technologies.



The BEST SOLUTION is often
a combination of BEST TECHNOLOGIES!

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