Metal Sensor Separator type EMSEF-R
Data Sheet

New Dynamic Sensor Technology

Traditional sensors used for metal sensor separators are **Static sensors**, the detection performance of which depends on the size of the pieces of metal to be detected and on the speed of the belt which conveys them across the sensor bank of the separator. Traditional sensors require the piece of metal to cross them for a minimum time in order to be properly detected. With a belt speed of metal sensor separtors always set between 6 and 8 feet per second, the determining variable thus remains the size of the piece of metal to be detected.

With traditional sensors, the larger the piece of metal, the easier the detection and the smaller the piece of metal, the less performing the detection, meaning that fines metals and shredder residue wires (insulated and bare) are difficult and casual targets to be identified.

A standard way to increase the detection performance of traditional sensors on fines metals is to reduce their diameter to 18 mm, 12 mm or even less, based on the principle that the smaller the diameter of the single sensor, the higher its frequency and the shorter the minimum time it requires to detect a piece of metal. This solution features some limits, one of which is that the smaller the diameter of the sensor, the more is lost in detection penetration.

The working principle of the SGM proprietary **Dynamic sensors** revolutionizes the concept of static sensors.

Instead of requiring a minimum passage time for sensing a piece of metal, **Dynamic sensors** just identify the event of the passage and, the more instantaneous the passage, the stronger the signal they will produce.

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The result is that traditional sensors to some extent cope with the detection of fines metals and copper wires while **Dynamic sensors** are specifically designed to identify them!

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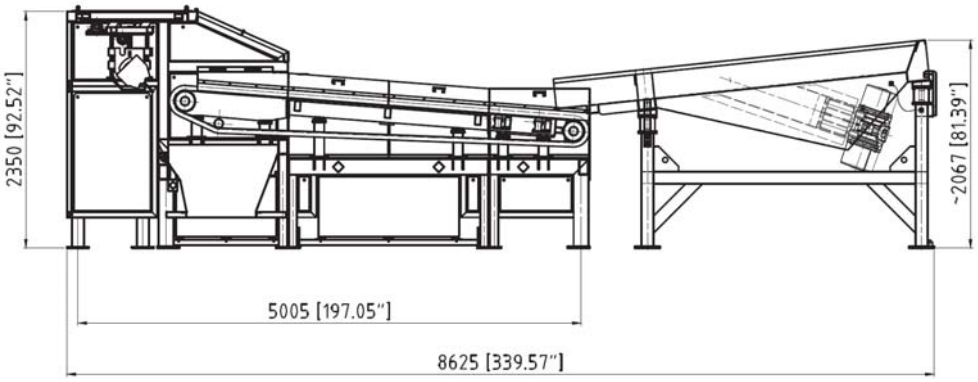
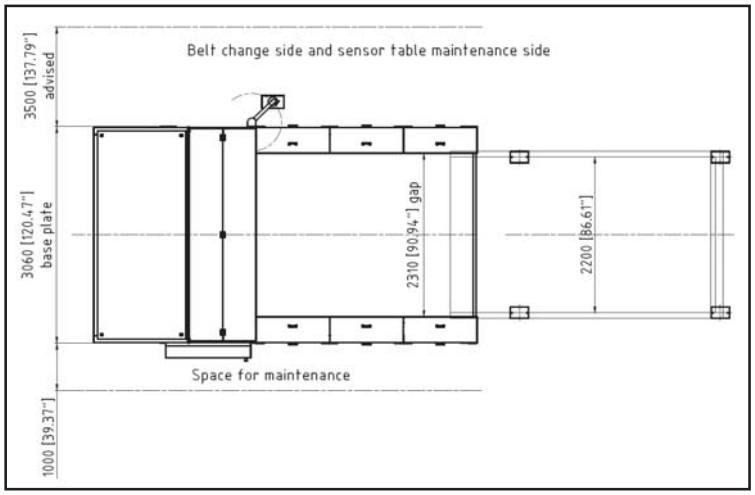
TECHNICAL SPECIFICATIONS

New design technology

Electronic features:
- Sensor board modules each with 12 dynamic sensors allowing for easy access.
- 12" touch screen control panel for easy and intuitive interface.
- Possibility to select different metal separation programs (stainless steel or wires) with different pre-set levels of sensitivity: High, Medium, Low.
- Alarm communication and diagnostic survey related to proper feeding and distribution of infeed material to EMS Separator.

Mechanical features:
- Laser cut frame design for easy and accurate assembly.
- Top blow design (Metal pieces are blown from top downwards).
- Possibility of connecting multiple EMS separators while maintaining the same working level.
- One of more sensor separator decks can be dedicated to Zurich recovery while additional sensor decks with Dynamic sensors are used for fines metals and wire recovery.





Model	Sensors	Valves/ Nozzles	Air Compressor (*)	Reservoir	Belt Speed	Mat. Size
EMSEF-R 48	60	120	37 kW - 8,5 bar	1000 lt	1,5-3 m/sec	15-130mm
EMSEF-R 80	90	180	45 kW - 8,5 bar	1500 lt	1,5-3 m/sec	15-130mm
EMSEF-R 96	116	232	55 kW - 8,5 bar	2000 lt	1,5-3 m/sec	15-130mm

(*) Air compressor specifications may vary upon metal content of infeed material

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