



WHEN RELIABILITY MATTERS

## RE80™ Magnetic Separation Solutions for Foreign Metal Fragment Control & Food Safety

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# ACHIEVING EFFICIENT & HYGIENIC MAGNETIC SEPARATION IN SENSITIVE DAIRY POWDERS

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# Achieving efficient & hygienic magnetic separation in sensitive dairy powders

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It is essential that magnets installed in sensitive dry product lines, such as [dairy powders and infant formulas](#), are not only high-strength and efficient but are also of sanitary design.

Poorly designed magnetic separators can pose a dangerous risk to food safety and risk bacterial or metal contamination in the final product.

## Recommendations for magnets in dairy powder lines

Magnattack™ Global technicians recommend that magnetic separators in powder lines;

- Are void of internal welds and ledges that may cause build-up and entrapment of powder
- Do not have stainless-steel sleeves on the outside of the magnet bars, as this allows for the possibility of powder being trapped between the inner magnet bar and the sleeve, presenting a serious potential hygiene risk
- Are of sanitary design and build
- Are compliant with USDA dairy specifications
- Are endorsed by HACCP International and designed to comply with International Food Safety Standard 0909MAGSEP 1-2010
- Have a cleaning process that ensures the least possible intrusion to product zone and does not require excess human intervention to access for cleaning
- Are designed to prevent build-up and blockage of the product stream, and
- If of automatic or self-cleaning operation, are designed to prevent build-up or binding of cleaning mechanisms and enable cleaning during operation with minimum food safety risk while the magnet is withdrawn

For maximum metal fragment control, it is recommended that magnets are installed in the following critical locations:

- Incoming ingredients and bulk intakes
- Prior to critical processing equipment
- Discharge of processing equipment and blenders
- Prior to metal detectors
- Immediately upstream of packing and bulker filling

Magnattack™ Global has developed a range of USDA Dairy Accepted magnetic separators that are suitable for such applications. The range includes carefully designed models of:

- [RE80™ Mag-Ram™ Self-Cleaning Grate Magnets](#),
- [RE80™ Rapidclean™ Grate Magnets](#), and
- [RE80™ Powder Transfer Magnets](#).

The [RE80™ Emulsion & Slurry Pipeline Magnet](#) has also received USDA Dairy Acceptance for use in liquid lines.

## Overview of USDA-accepted magnets for efficient magnetic separation

The Magnattack™ Global range of USDA-Dairy Accepted magnets have been engineered to effectively control the presence of weakly-magnetic material, including work-hardened stainless-steel in product lines such as milk, infant formulas, pharmaceutical powders, lactose powders, and other similar products.

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*"USDA Dairy Acceptance offers peace of mind to dairy and critical hygiene customers showing we've taken extensive measures to ensure engineering, sanitary design, and execution of our magnetic separation equipment, and to support in every way our customers ultimate goal of maintaining and improving food safety and risk reduction."*

*Kevin Baker, Director of Magnattack Global.*

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### Mag-Ram™ Self-Cleaning Separator

The [Mag-Ram™ Self-Cleaning Separator](#) is an automatic self-cleaning grate magnet that requires zero human interaction in the product zone for cleaning.

This design is a highly sanitary and heavy-duty magnet that is usually installed prior to metal detectors and packing, or in high/hard-to-reach locations. It is becoming increasingly popular in food industry applications due to its ability to clean during production, with minimal reduction in magnet presence in the food zone.



### Rapidclean™ Grate Magnet

The [Rapidclean™ Grate Magnet](#) is an advanced alternative to conventional grate-in-housing designs.

Two key features of the Rapidclean™ are that the magnets must be completely removed from the product zone before cleaning can be carried out and the Rapidclean™ Cleaning Tools enable efficient and safe removal of collected fragments without hand contact. These are advantageous in that they greatly reduce recontamination risks and, unlike many other

designs where all the magnets are pulled through comment wipers, the Rapidclean™ design allows for visual inspection of the magnet bars prior to return to the product flow area.

**RAPIDCLEAN™**



### Powder Transfer Magnet

The [Powder Transfer Magnet](#) (PTM) incorporates key design features of the Spherical Pneumatic Transfer Magnet, providing highly efficient separation of metal fragments without experiencing bulk density or blockage problems.

The separator features Magnattack™ RE80™ Tear Drop Probes for improved separation efficiency, aerodynamics, and optimum extraction of foreign metal contamination.

The PTM can be installed in vertical installations of pneumatic transfer lines, 3"-6" in diameter.

**POWDER TRANSFER MAGNET**



### Magnets for dairy liquids: Emulsion & Slurry Pipeline Separators

The recently released [Emulsion & Slurry Pipeline Separator](#) (ESPS) is a breakthrough in efficient magnetic separation in viscous dairy liquid lines.

RE80™HT Tear Drop Probes allow for a very smooth transition of viscous products around the magnet with minimum resistance to flow allowing for the retention of the collected magnetics behind the magnet away from the possibility of dislodgment by the flow of product. Maximum product to magnet coverage is achieved without causing leaks, blockages, and pressure problems.

The ESPS can be installed in horizontal, sloping, and vertical pipelines sized 1" – 6".



## Certifications

The Magnattack range of magnetic separators is endorsed by [HACCP International](#) and designed in accordance with HACCP International Food Safety Standard 0909MAGSEP 1-2010.

The above magnetic separation systems have received [USDA Acceptance](#) in the dairy category.

## Increase metal fragment control & protect your product.

Magnattack Global has a team of qualified and highly trained technicians available to assist you in achieving efficient and hygienic magnetic separation in your sensitive powder lines.

For assistance or magnetic separator proposals, please [contact us](#).

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