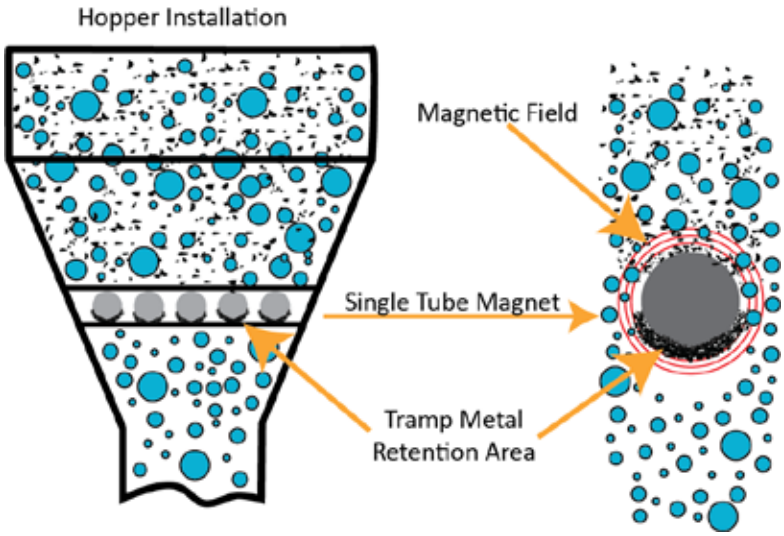
Magnets | Material Handling
Electronic Inspection | Service

Grate Magnets

Series: GM

USDA Available

Made in USA



Built to Last:

- Permanent rare earth neodymium or ceramic magnet material options
- All tube ends are fully welded for the highest durability and sanitary design, no crimped or rolled ends
- Heavy wall thickness tube is more resistant to dings and dents common with grate style magnet applications

Industry Leading Delivery and Configurations:

- Highly configurable grate magnet with multiple options and sizes available for quick delivery

USDA Certified Available:

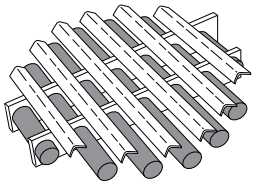
- USDA approved certified sanitary (USDA AMS NSF / ANSI / 3-A14159-1 2002) available that certifies grate magnet to USDA standards for cleanability, corrosion resistance and durability

Manufactured in the USA:

- Manufactured in Highland, MI to the highest quality standards

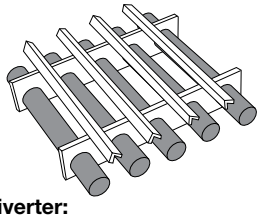
Type D2 Diverter:

- Designed for fine, free-flowing product streams. This diverter design has a 90° bend to assure the maximum contact of product onto the magnetic tube.



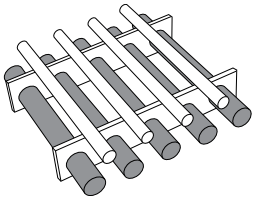
Type D3 Diverter:

- Recommended for medium-size product streams. The 60° bend permits a smooth product flow while still forcing the product over the magnetic tubes.



Type D4 Diverter:

- Designed for coarse, granular product streams. These diverters are designed with .375" dia. stainless steel bars, providing minimal product flow deflection.



**Specifications subject to change*

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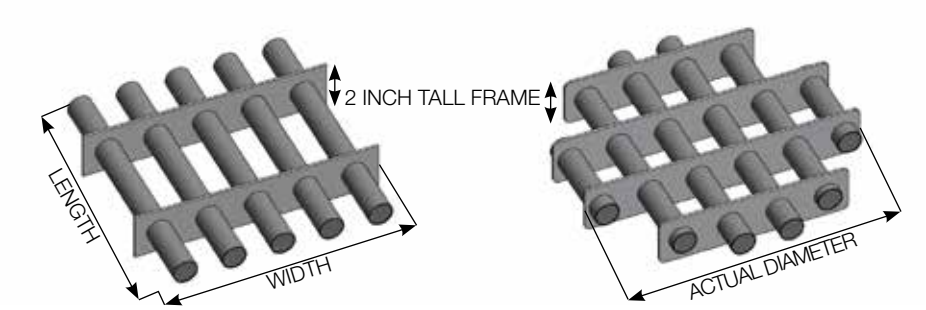

Grate Magnet (GM) Selection Guide

Standard Size Square Grate Magnet Part Number	Length		Width		Weight	
	IN	MM	IN	MM	LBS	KGS
GM-44	4.00	101.6	4.00	101.6	3.00	1.8
GM-66	6.00	152.4	6.00	152.4	4.50	2.7
GM-88	8.00	203.2	8.00	203.2	8.00	3.6
GM-1010	10.00	254	10.00	254	12.00	5.4
GM-1212	12.00	304.8	12.00	304.8	17.00	7.7
GM-1414	14.00	355.6	14.00	355.6	23.00	10.4
GM-1616	16.00	406.4	16.00	406.4	30.00	13.6
GM-1818	18.00	457.2	18.00	457.2	38.00	17.2
GM-2020	20.00	508	20.00	508	46.00	20.9
GM-2222	22.00	558.8	22.00	558.8	56.00	25.4
GM-2424	24.00	609.6	24.00	609.6	66.00	29.9

Standard Size Round Grate Magnet Part Number	Hopper Diameter		Actual Diameter		Weight	
	IN	MM	IN	MM	LBS	KGS
GM-4R	4.00	101.6	3.75	95.3	2.00	0.9
GM-6R	6.00	152.4	5.75	146.1	3.00	1.4
GM-8R	8.00	203.2	7.75	196.9	7.00	3.2
GM-10R	10.00	254	9.75	247.7	10.00	4.5
GM-12R	12.00	304.8	11.75	298.5	14.00	6.4
GM-14R	14.00	355.6	13.75	349.3	18.50	8.4
GM-16R	16.00	406.4	15.75	400.1	24.00	10.9
GM-18R	18.00	457.2	17.75	450.1	30.00	13.6
GM-20R	20.00	508	19.75	501.6	37.00	16.8
GM-22R	22.00	558.8	21.75	552.5	44.00	20
GM-24R	24.00	609.6	23.75	603.3	53.00	24

Grate Magnet (GM) Selectable Options

Shape: Standard shapes for grate magnets are listed below. Custom shapes are available to fit any application.

- Round
- Square
- Rectangle

Size: Sizes range from 4" to 48"+ depending upon configuration.

Weight: MPI recommends all grate magnets that are handled by personnel weigh under 50 lbs. each. Larger grates can be split into multiple smaller sizes to accommodate recommended handling weight. The weight of the grate magnet specific for your size will be shown on the quote.

Material Construction:

- **304 Stainless Steel (standard)**
- 316 Stainless Steel

Frame Design: The frame that holds the magnetic tubes together is manufactured from stainless steel and welded to the tubes. Several different frame options are available for cleanability, sanitary and economical considerations for the grate magnet.

- Welded inside frame 2" tall x 0.105" thick
- Welded end of tubes 2" tall x 0.105" thick (not available for round grate magnets)
- Bolt on end of tubes 2" tall x 0.187" thick (not available for round grate magnets)
- Food grade sanitary frame at end of tubes 2" tall x 0.187" thick

Diverters: Diverters can help increase the tramp metal retention efficiency of the grate magnet but can obstruct product flow and make the magnetic separator more difficult to clean. MPI offers several different options for different material characteristics.

- **Not included (standard)**
- D2 - 90° bend to assure maximum product contact onto magnetic tube. Designed for fine, free-flowing products.
- D3 - 60° bend to help product contact magnetic tube. Designed for medium size product streams.
- D4 - 0.375" diameter round bar helps product contact magnetic tube while providing minimal product flow deflection. Designed for course, granular product streams.

Magnetic Tubes [reference datasheet MT]: Different performance models of magnetic tubes are available to match the applications tramp metal requirements.

- Ceramic
- REN Rare Earth Neodymium
- Hi-G high performance Rare Earth Neodymium
- TW Thin Wall high performance Rare Earth Neodymium

Magnetic Material Temperature [reference datasheet MT]: Magnet material has a maximum operating temperature depending on the grade. MPI supplies the strongest grade available for the stated maximum temperature. Magnet material should be specified to be safely over the applications maximum operating temperature.

- 400° F (204°C) @ 3.5 MGOe (ceramic)
- 176° F (80°C) @ 52-55 MGOe (rare earth)
- 248° F (120°C) @ 48 MGOe (rare earth)
- 356° F (180°C) @ 38 MGOe (rare earth)
- 662° F (350°C) @ 30 MGOe (rare earth)

Tube Spacing: Magnetic grates are designed to perform at highest performance when manufactured with 2" horizontal centers between the tubes. This spacing can be expanded if required for product flowability at the compromise of tramp metal retention efficiency.

- **2" horizontal spacing (standard)**
- 3" (approx.) horizontal for increased flowability

Tube Coatings: Standard stainless steel tubes are excellent for most applications. Synergistic coating is available for applications where abrasive or adhesive products are being processed to increase abrasion resistance and cleanability.

- **Stainless steel with no coating (standard)**
- Synergistic Coating [reference datasheet Synergistic Coating, requires bolt-on or outside frame design]

USDA / 3-A Magnet Certification (USDA AMS NSF / ANSI / 3-A14159-1 2002): Certifies grate magnet to USDA standards for cleanability, corrosion resistance and durability.

- **Not included (standard)**
- Included

**Specifications subject to change*

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