



# Magnetic Tubes & Grates

Tubes & Tube Accessories

TRAMP METAL

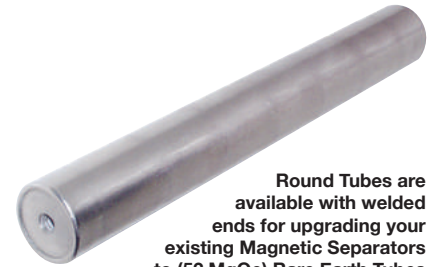
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## Magnetic Grate Tubes:

IMI's magnetic tubes are ideal for custom installations that require magnetic separation, but lack the space for a housing or grate assembly. Tapped mounting holes located in each end of the tube allow for easy bolt-in installation. Customers can arrange these tubes in a configuration that works best for their magnetic separation needs.

These tubes are constructed from stainless steel and are available in Ceramic and Rare Earth (UHI-52™)/55 MgOe material.



Round Tubes are available with welded ends for upgrading your existing Magnetic Separators to (52 MgOe) Rare Earth Tubes

Magnetic Grate Tubes Designs, Applications and Specifications						
Configuration	Application	Magnet	1/4" Ball Pull Values	1/2" Ball Pull Values	Gauss	Durability
Opti-B™	Balanced	UHI-52™ Rare Earth	95.8 oz. (5.99 lbs.)	267.2 oz. (16.7 lbs.)	9475	★★★★
Opti-G™	High Gauss	UHI-55™ Rare Earth	108.3 oz. (6.77 lbs.)	265.6 oz. (16.6 lbs.)	12000	★★
Opti-H™	HACCP	UHI-55™ Rare Earth	106 oz. (6.63 lbs.)	260.8 oz. (16.3 lbs.)	11175	★★★
Opti-P™	High Pull	UHI-55™ Rare Earth	119.1 oz. (7.44 lbs.)	316.8 oz. (19.8 lbs.)	10539	★★
Opti-T™	High Temperature	Hi-Temp Rare Earth	60.5 oz (3.78 lbs)	188.3 oz (11.78 lbs)	7240	★★★★
Opti-V™	Value	Ceramic	0.5 oz. (0.03 lbs.)	24 oz. (1.5 lbs.)	2320	★★★★

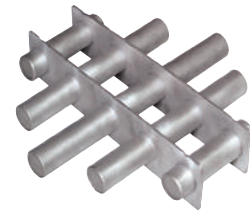
## Magnetic Grate Assemblies:

Ideal for ferrous metal separation in (square, rectangular, or round) bins, chutes, drawers, bag dumps and hoppers.

IMI grates are constructed with 1" diameter magnetic tubes placed on 2" centers in a heavy duty stainless steel framing. Magnetic grates are available in a variety of round, square and rectangular configurations (see charts on page 3). Special sizes, shapes and configurations are available upon request.



Square Grate with Food Grade Finish (Fully Seam Welded)



Round Grate with Customary Finish (Rolled & Staked)

## Magnetic Grate Selection Factors

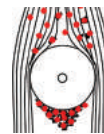
Product consistency, density and moisture content, which influence flow characteristics, are important factors in grate magnet applications. In order to choose the correct magnetic grate to ensure positive flow, it is important to recognize materials that have tendencies to bridge between the magnetic tubes. While diverter systems are helpful in directing the material flow to the magnets, be aware they tend to increase bridging and reduce uniform product flow.

### Round Grate Tube Specifications:

- Available in Standard Lengths from 4" to 36" in Two Inch Increments
- Round Grate Tubes Weigh 0.21 Pounds Per Inch of Length
- One Inch Diameter Stainless Steel Tubes
- Rolled Ends with Solid Stainless Steel Plugs
- 1/4-20 Tapped Mounting Holes in End Plugs

### Round Grate Tube Options:

- Welded Ends
- Custom Lengths
- Special Coating for Abrasive Products



The following items can be manufactured to conform to HACCP International's Food Safety and USDA/AMS standards:

- Pneumatic Line Magnets
- Drawer-in-Housing Magnets
- Plate Magnets
- Magnetic Tubes
- Magnetic Grates

### Typical Grate Installations

Hoppers

Chutes

Housings

## Key Markets

Mid-stream magnets for dry, free flow powders to granular products; i.e. food, feed, grain, plastics, chemical

## Related Products

Drawer-In-Housings, Large Tube Housings, The Ox, Clean-Flow Magnets, Pipe Magnet

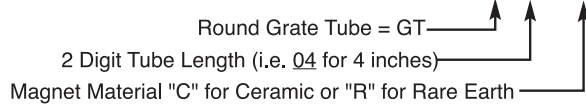
# Magnetic Tubes & Grates

## Tubes & Tube Accessories

### Round Grate Tube Assembly Features:

- 12GA thick by 2" wide stainless steel stringers
- 1" diameter stainless steel magnetic tubes
- Tubes on 2" centers

### Round Grate Tube Ordering Guide: GT\_\_00\_\_



Example: GT0800R = 8" Long, Rare Earth Grate Tube

### Round Grate Tube Assembly Options:

- Custom sizes and designs available
- Sanitary or food grade construction
- Available with diverters
- Customer specified tube spacing
- Special Coating for Abrasive Products

Standard Models listed with the prefix "N" are without diverters.

## Round Grate

### Specification Guide:

- To order a round grate with a diverter replace the "N" in the part number with the letter for the desired diverter type.
- Also, add "C" for Ceramic or "R" for Rare Earth to the end of the part number. Example Part Number: A 6" dia. Rare Earth (R) grate with 60° diverter (style C) would be C06DR.

**Note:** For 20 lbs/cu.ft., divide the number in the 40 lbs/cu.ft. column by 2.

SIZE AND FLOW CHART FOR ROUND SHAPED (ROUND TUBE GRATES)									
Part No.	Grate Dia.	No. of Tubes	Square Inches	CuFt/ Hr.	Wt. Lbs.	Flow Capacity By Bulk Density (lbs./hr.)			
						40 lb./ft <sup>3</sup>	50 lb./ft <sup>3</sup>	60 lb./ft <sup>3</sup>	70 lb./ft <sup>3</sup>
N06D	6"	3	28	353	2.8	14,130	17,663	21,195	24,728
N08D	8"	4	50	800	5.0	32,000	40,000	48,000	56,000
N10D	10"	5	78	1,250	7.9	50,000	62,500	75,000	87,500
N12D	12"	6	113	1,800	11.3	72,000	90,000	108,000	126,000
N14D	14"	7	153	2,450	15.4	98,000	122,500	147,500	171,500
N16D	16"	8	201	3,200	20.1	128,000	160,000	192,000	224,000
N18D	18"	9	254	4,050	25.5	162,000	202,500	243,500	283,500
N20DW	20"	10	314	5,000	31.4	200,000	250,000	300,000	350,000
N22DW	22"	11	380	6,050	38.0	242,000	302,500	363,000	423,500
N24DW	24"	12	452	7,200	45.2	288,000	360,000	432,000	504,000
N26DW	26"	13	530	8,450	53.0	338,000	422,500	507,000	591,500
N28DW	28"	14	615	9,800	61.5	392,000	490,000	588,000	686,000
N30DW	30"	15	706	11,250	70.6	450,000	562,500	675,000	787,500
N32DW	32"	16	804	12,800	80.4	512,000	640,000	768,000	896,000
N34DW	34"	17	907	14,450	90.7	578,000	722,500	867,000	1,011,500
N36DW	36"	18	1,017	16,200	101.7	648,000	810,000	972,000	1,134,000

Round magnetic grates are available in 30 standard diameters ranging from 4" to 36". Special sizes are also available. 6" - 18" diameter are sticked and rolled. Above 18" diameter are welded.

## Rectangular Grate

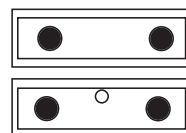
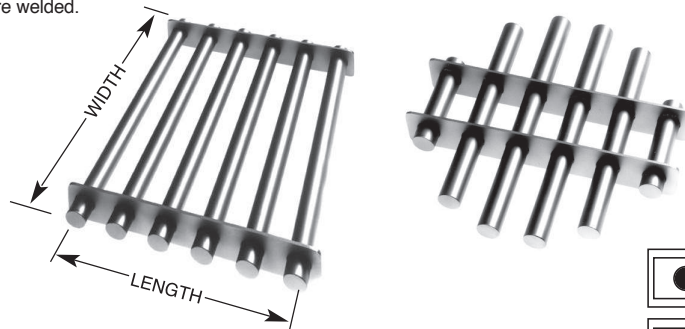
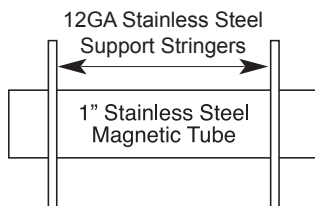
### Specification Guide:

- To order a rectangular grate list the 2 digit width followed by a "W" (Tube Length) and then list a 2 digit length followed by a "L". If a diverter is desired, replace the "N" at the beginning of the part number with the letter for the desired diverter type.
- Also, add "C" for Ceramic or "R" for Rare Earth to the end of the part number. Example: The part number for a 6" wide by 10" long Ceramic (C) grate with a 90° diverter (style C) would be C06W10LC.

**Note:** For 20 lbs/cu.ft., divide the number in the 40 lbs/cu.ft. column by 2.

FLOW CHART FOR RECTANGULAR (ROUND TUBE GRATES)									
Size W x L	No. of Tubes	Square Inches	CuFt/ Hr.	Wt. Lbs.	Flow Capacity By Bulk Density (lbs./hr.)				
					40 lb./ft <sup>3</sup>	50 lb./ft <sup>3</sup>	60 lb./ft <sup>3</sup>	70 lb./ft <sup>3</sup>	
04W04L	2	16	200	1.6	8,000	10,000	12,000	14,000	
06W06L	3	36	450	3.3	18,000	22,500	27,000	31,500	
08W08L	4	64	800	5.5	32,000	40,000	48,000	56,000	
10W10L	5	100	1,250	8.4	50,000	62,500	75,000	87,500	
12W12L	6	144	1,800	11.4	72,000	90,000	108,000	126,000	
14W14L	7	196	2,450	15.8	98,000	122,500	147,000	171,500	
16W16L	8	256	3,200	20.0	128,000	160,000	192,000	224,000	
18W18L	9	324	4,050	25.2	162,000	202,500	243,000	283,500	
20W20LW	10	400	5,000	30.3	200,000	250,000	300,000	350,000	
22W22LW	11	484	6,050	36.7	242,000	302,500	363,000	423,500	
24W24LW	12	576	7,200	43.1	288,000	360,000	432,000	504,000	
26W26LW	13	676	8,450	50.5	338,000	422,500	507,000	591,500	
28W28LW	14	784	9,800	58.2	392,000	490,000	588,000	686,000	
30W30LW	15	900	11,250	66.5	450,000	562,500	675,000	787,500	
32W32LW	16	1,024	12,800	75.3	512,000	640,000	768,000	896,000	
34W34LW	17	1,156	14,450	84.7	578,000	722,500	867,000	1,011,500	
36W36LW	18	1,296	16,200	94.6	648,000	810,000	972,000	1,134,000	

Rectangular magnetic grates are available with standard widths and lengths from 4" to 36" in 2" increments. Special sizes are also available. 6" - 18" diameter are sticked and rolled. Above 18" diameter are welded.



### Diverter Style Specifications:

Standard Grate with No Diverters

3/8 RD Bar for coarse materials with minimum flow restriction. 3/8" (.9525cm) dia. stainless rod.