



# Suspended Overhead Magnets

Applications Sheet

TRAMP METAL

TG-12A

Industrial Magnetics, Inc. • PO Box 80 • Boyne City, MI 49712 • p: 888.582.0821 • f: 231.582.2704 • w: www.magnetics.com • e: imi@magnetics.com

Customer: \_\_\_\_\_ Quote #: \_\_\_\_\_ Ind. Code: \_\_\_\_\_ Date: \_\_\_\_\_

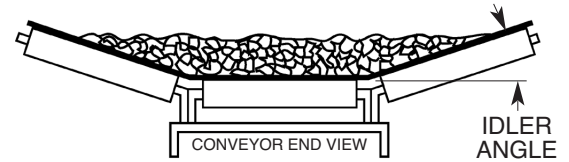
1. Product: \_\_\_\_\_ Size: \_\_\_\_\_ Max. Lump Size: \_\_\_\_\_  
Moisture %: \_\_\_\_\_ Volume/Rate: \_\_\_\_\_ Bulk Density: \_\_\_\_\_  
Product width on belt: \_\_\_\_\_ Product/burden depth: \_\_\_\_\_

2. Describe size/type of tramp metal: \_\_\_\_\_

3. Belt width (flat): \_\_\_\_\_

Belt Speed: \_\_\_\_\_

Idler Angle: \_\_\_\_\_



4. \_\_\_\_\_ Permanent? Self-Cleaning? \_\_\_\_\_ Yes \_\_\_\_\_ No

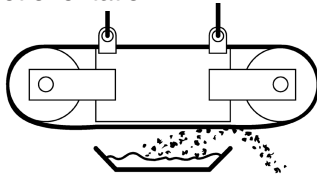
\_\_\_\_\_ Electromagnet? Self-Cleaning? \_\_\_\_\_ Yes \_\_\_\_\_ No

\_\_\_\_\_ Power requirements: Input Voltage \_\_\_\_\_ Hertz \_\_\_\_\_ NEMA \_\_\_\_\_

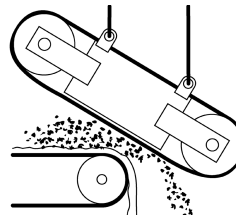
\_\_\_\_\_ Suspension height of magnet (from lowest belt surface)?

5. How much ferrous metal is under the conveyor: \_\_\_\_\_

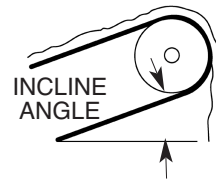
Magnet orientation:



CROSS BELT \_\_\_\_\_  
(Discharge: Right \_\_\_\_\_ Left \_\_\_\_\_)  
From Drive Side



IN-LINE \_\_\_\_\_



CONVEYOR \_\_\_\_\_  
(Incline angle in degrees)

## OPTIONAL EQUIPMENT

### Self-Cleaning Magnets

- \_\_\_ Motor starter
- \_\_\_ Explosion proof motor and junction box
- \_\_\_ Stainless steel wear plate
- \_\_\_ Impact package: Stainless clad belt, lagged drive pulley
- \_\_\_ Zero speed switch
- \_\_\_ Turnbuckles
- \_\_\_ High temperature oil

**Note:** To maximize the performance of any suspended magnetic separator, the conveyor section below the magnet and 18"-24" on either side of the magnet should be non-ferrous.

### Manual Clean Magnets

- \_\_\_ Easy clean stripper pan
- \_\_\_ Fixed mounting frame
- \_\_\_ Turnbuckles

### Power Supplies

- Volt Meter AC \_\_\_\_\_ DC \_\_\_\_\_
- Amp Meter AC \_\_\_\_\_ DC \_\_\_\_\_
- Line Fuse AC \_\_\_\_\_ DC \_\_\_\_\_

### Calculations

1. Feed Capacity:  $\frac{\text{Tons Per Hour}}{\text{Specific Weight}} \times 2000$  - cubic feet per hour.
2. Burden width in feet:  $(\text{Belt width} - 6")/12"$
3. Burden depth in inches:  $\frac{\text{Feed capacity (cu.ft./hr.)} \times 1.5}{\text{Belt speed (fpm)} \times \text{burden width (ft.)} \times 5}$

### Internal Use

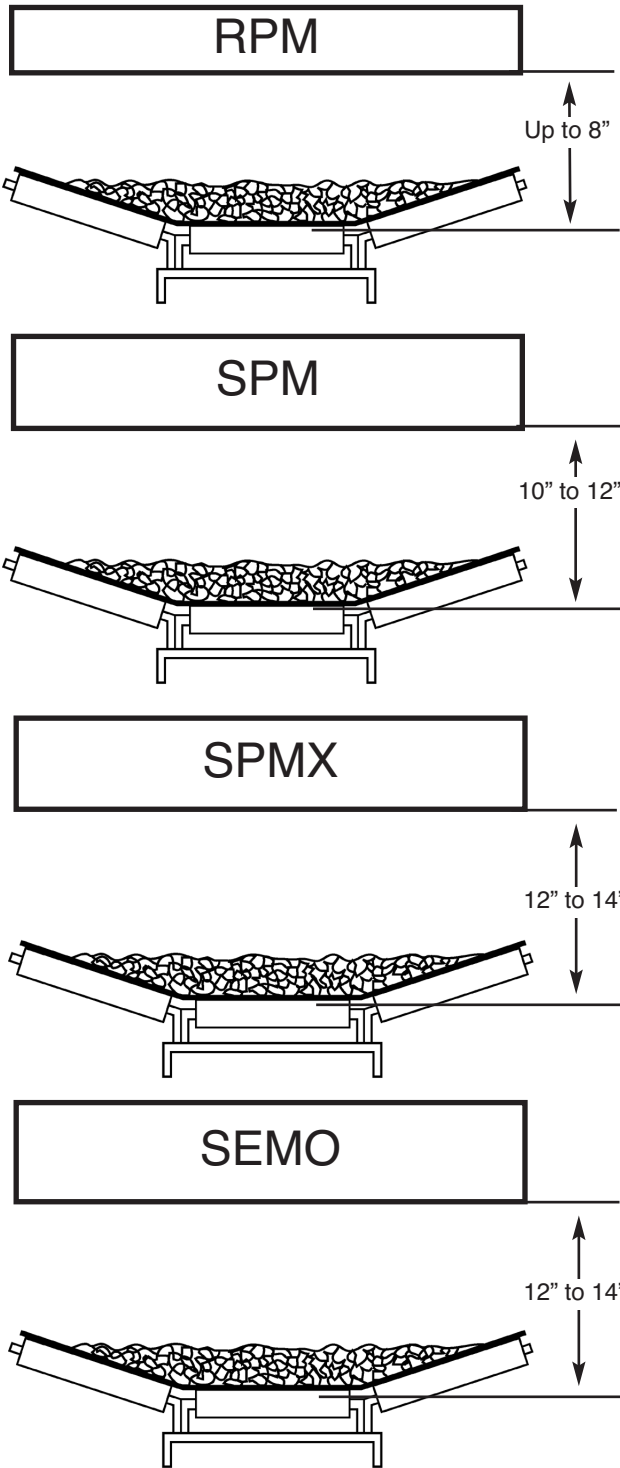
Type of magnet(s) recommended: \_\_\_\_\_ Qty: \_\_\_\_\_

Comments/Concerns: \_\_\_\_\_

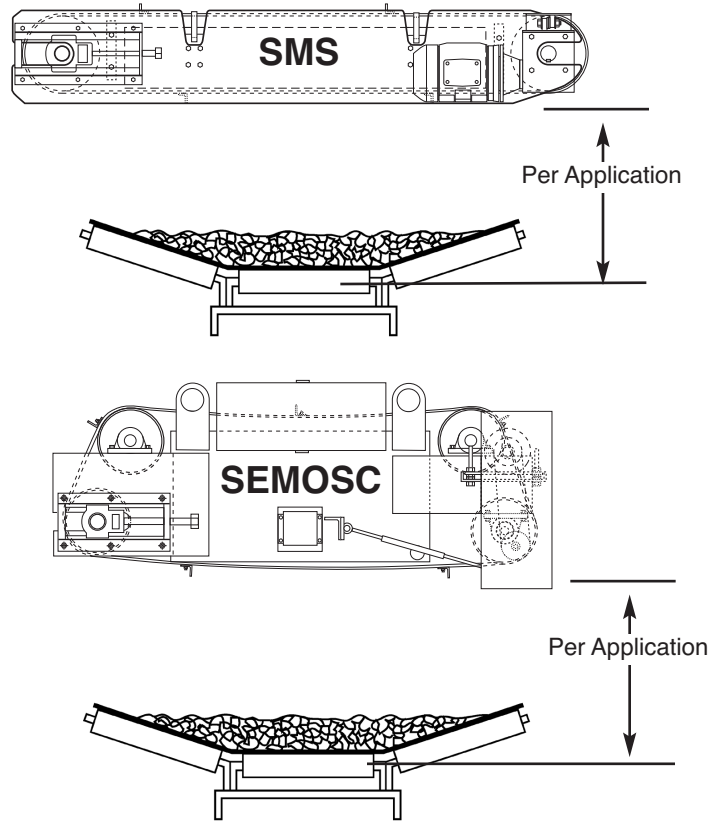
# Suspended Overhead Magnets

Rule Of Thumb For Suspension About The Belt

## Manual Clean



## Self Cleaning



### Notes

- Suspension height is based on product depth
- Lower suspension heights may increase the amount of metal captured
- Ferrous metal embedded or trapped under other products may not be captured
- Recommended ferrous metal free zone 18" - 24" either side of the magnet and directly underneath
- RPM magnet used for recycling only - cans or very light weight metals
- Electromagnets are used to pick up large tramp metal and always used for large bucketteeth 20lbs. plus
- For self cleaning magnets, the suspension height needs to include the normal belt sag of 2" - 3"
- As a rule of thumb - electromagnets are normally (1) size larger than the conveyor belt due to the magnetic field configuration.  
(Exception: in-line applications)