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MAGNETIC CONVEYORS

Magnetic conveyors are created by placing permanent ceramic magnets in the bed of a standard conveyor.

- Holds ferrous parts fast to the belt.
- Ideal for elevation changes or part holding.
- Can be used in upside down applications.
- Strength and size of magnetic field is designed per application.

4100 Series Conveyor Specifications

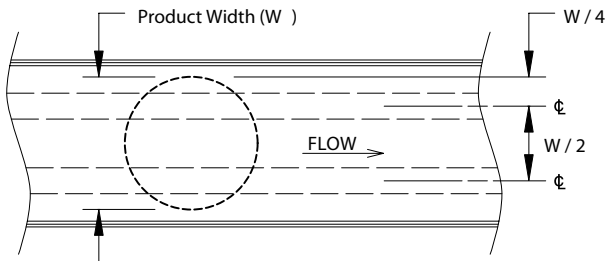
- 12 Gauge Roll-Formed Mild Steel Frame, Painted
- Conveyor Widths: 1.75" to 12" wide
- Conveyor Lengths: 2' to 6' long
- Speed Capacity: 255 ft/min

See Product Engineering Manual or www.dorner.com for details.



Magnet Specifications:

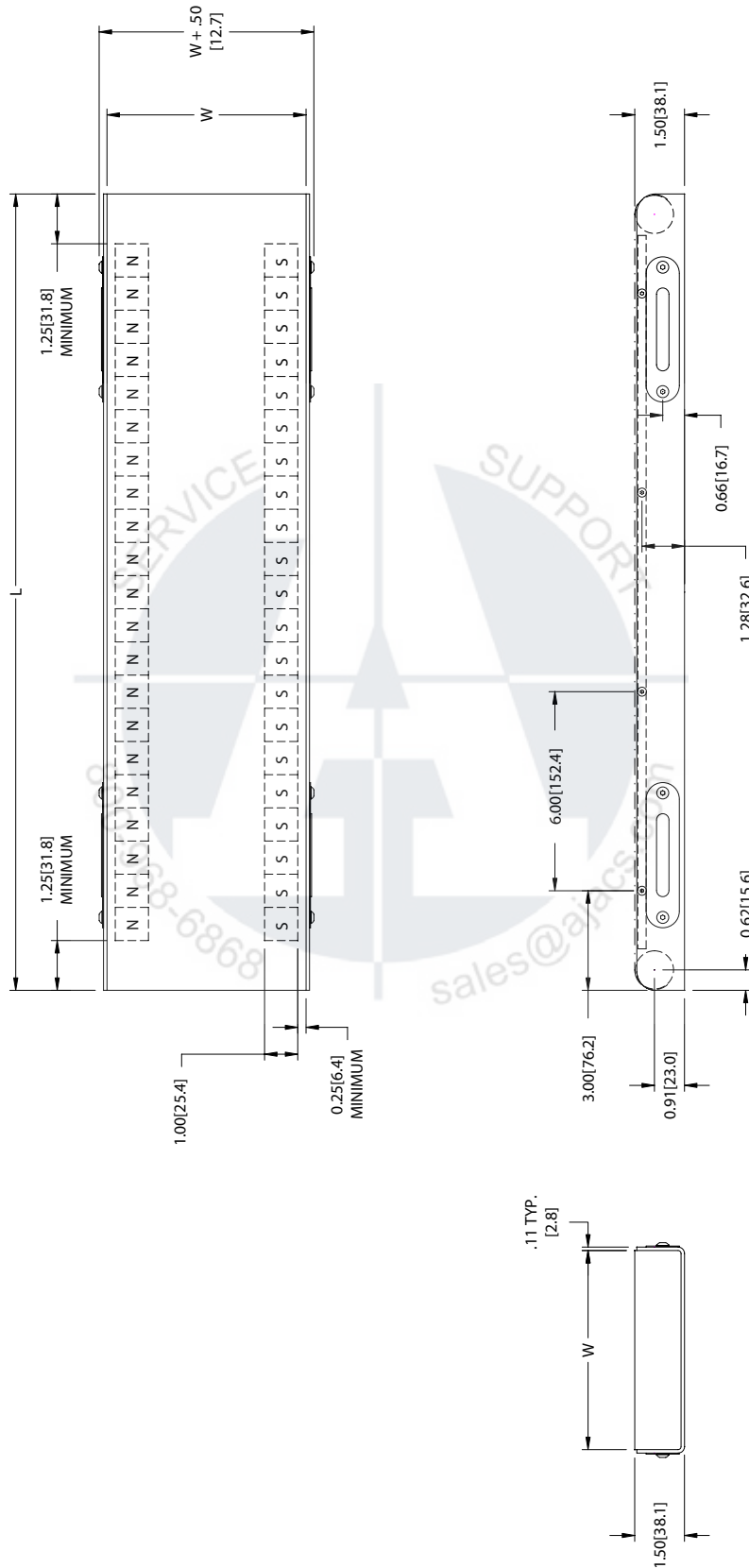
- Permanent ceramic magnets
- Width = 1" wide
- Strengths: Standard and strong
 (Note: strong magnets are generally only used in centering or inverted applications)
- Rows: Generally 2 rows of magnets are used. One row oriented as north, the other as south.
 Multiple rows can be used for larger product or additional magnetic strength.
- Row Spacing: Generally spaced at 1/2 of the width of the product.



- Decreasing Zones allow gradual decreasing of magnet strength for smooth product transfer off the magnets or end of the conveyor. They should be used for the following reasons.
 1. Belt speed is less than 25 ft/min
 2. Product length (in the direction of the flow) is less than 3"
- Decreasing zone length should be 4 times the product length.
- Sample product is recommended to test magnetic strength.

Note: Do not attempt to accumulate product on a magnetic conveyor.

Dimensions and Magnetic Layout:



Profiles:

- All 4100 Series profiles are applicable.
- [See Full Specifications Catalog Pg 140 for details.](#)

Belting:

- Do not use low coefficient of friction belting.
- Finger splice is preferred, plastic and metal clipper splices are acceptable.
- *See Product Engineering Manual or www.dorner.com for details.*

Mounting Packages & Gearmotors:

- All 4100 Series mounting packages and gearmotors are applicable.
- *See Product Engineering Manual or www.dorner.com for details.*

Support Stands:

- All 4100 Series support stands are applicable.
- *See Product Engineering Manual or www.dorner.com for details.*



EXPRESS INQUIRY FORM: GENERAL INFORMATION

Along with completing the Express Inquiry form below, please complete the specific 4100 Series Magnetic Conveyor application questions on the next page to the best of your ability.

Contact Technical Sales at 1-800-259-1510 (Press 3) or TechnicalSales@dorner.com for Application Assistance.

CONTACT INFORMATION Company: _____ Date: _____ Name: _____ Phone: _____ Fax: _____ E-Mail: _____ Address: _____ City: _____ State: _____ Zip: _____
PRODUCT Description/Material: _____ Dimensions: _____ Weight: _____ Total Weight to be Placed on Conveyor: _____ Temperature: _____ Leading Edge Dimension: _____
ENVIRONMENT Chemicals or Fluids Present: _____ Unusual Ambient Temperature Conditions: _____ Other Concerns: _____
CONVEYOR Belt Width: _____ Conveyor Length: _____ Belt Speed: _____ <input type="checkbox"/> Fixed <input type="checkbox"/> Variable See example on next page for calculating belt speed. Infeed Height: _____ Discharge Height: _____ Belt Direction & Motor Position: _____
ELECTRICAL Voltage: _____ Phase: _____ Hz: _____ For Variable Speed: <input type="checkbox"/> DC <input type="checkbox"/> AC Controls Required: _____

EXPRESS INQUIRY FORM: MAGNETIC INFORMATION

Page may need to be copied to communicate multiple conveyors

DESCRIBE EACH MAGNETIC CONVEYOR:
 What do you want the magnets to do? _____

 How is the part being introduced onto conveyor? _____

 What is the product feed rate? (parts per minute) _____
 Is part orientation critical? Yes No Explain: _____
 Are you concerned if your part picks up residual magnetism? _____
 Where does the part go upon discharging from the conveyor? _____

CONVEYOR(S)
 Number of Conveyors: _____
 Number of Magnetic Rows: _____

PRODUCT SAMPLES
 Samples of actual products can be critical to the successful design and application of a magnetic conveyor.
 Will sample products be provided to Dorner? Yes No

FAX COMPLETED FORMS TO 800.369.2440 or 262.367.5827

BELT SPEED CALCULATOR

How to calculate minimum conveyor belt speed:

$$\frac{(\text{Part rate in parts per minute}) \times (\text{part size in inches})}{12}$$

Example $\frac{(30 \text{ parts per minute}) \times (6" \text{ dia. part})}{12} = \frac{180}{12} = 15 \text{ ft/min. Minimum Belt Speed}$

How to calculate conveyor belt speed incorporating a product spacing:

$$\frac{(\text{Part rate in parts per minute}) \times (\text{desired part spacing in inches} + \text{part size in inches})}{12}$$

Example $\frac{(30 \text{ parts per minute}) \times (6" \text{ dia part} + 12" \text{ spacing between parts})}{12} = \frac{(30) \times (18)}{12} = \frac{540}{12} = 45 \text{ ft/min. Belt Speed}$