

975 Cottonwood Ave., PO Box 20, Hartland, Wisconsin 53029-0020, USA

Magnetic Conveyors

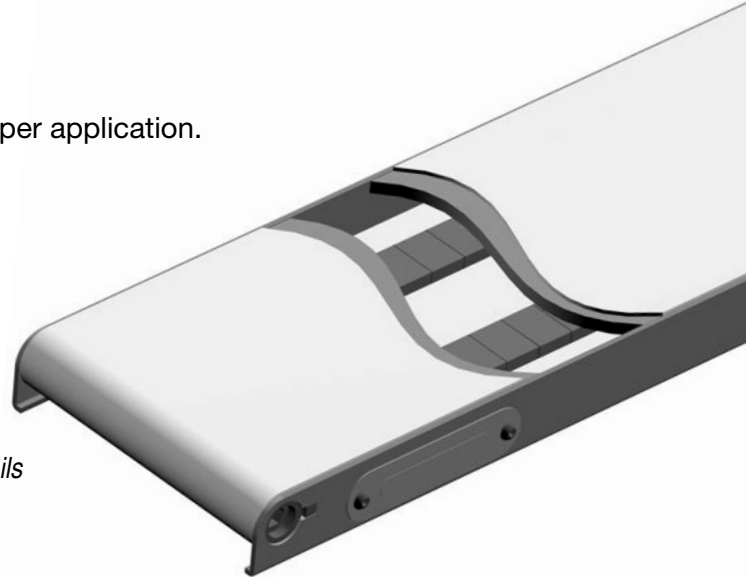
Magnetic conveyors are created by placing permanent ceramic magnets in the bed of a standard conveyor.

- 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:

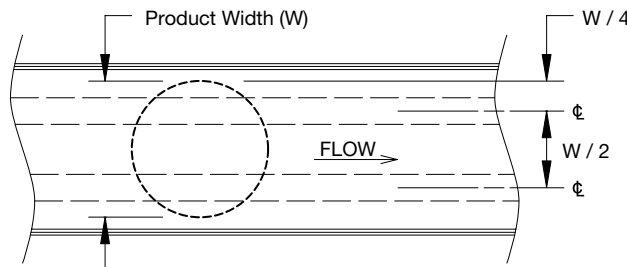
- 12 Gauge roll-formed mild steel frame, painted
- Conveyor widths: 1.75" to 12" wide
- Conveyor lengths: 2' to 6' long
- Speed Capacity: 255 ft/min

Reference Full Specification Catalog Pg 128 for Conveyor Details



Magnet Specifications:

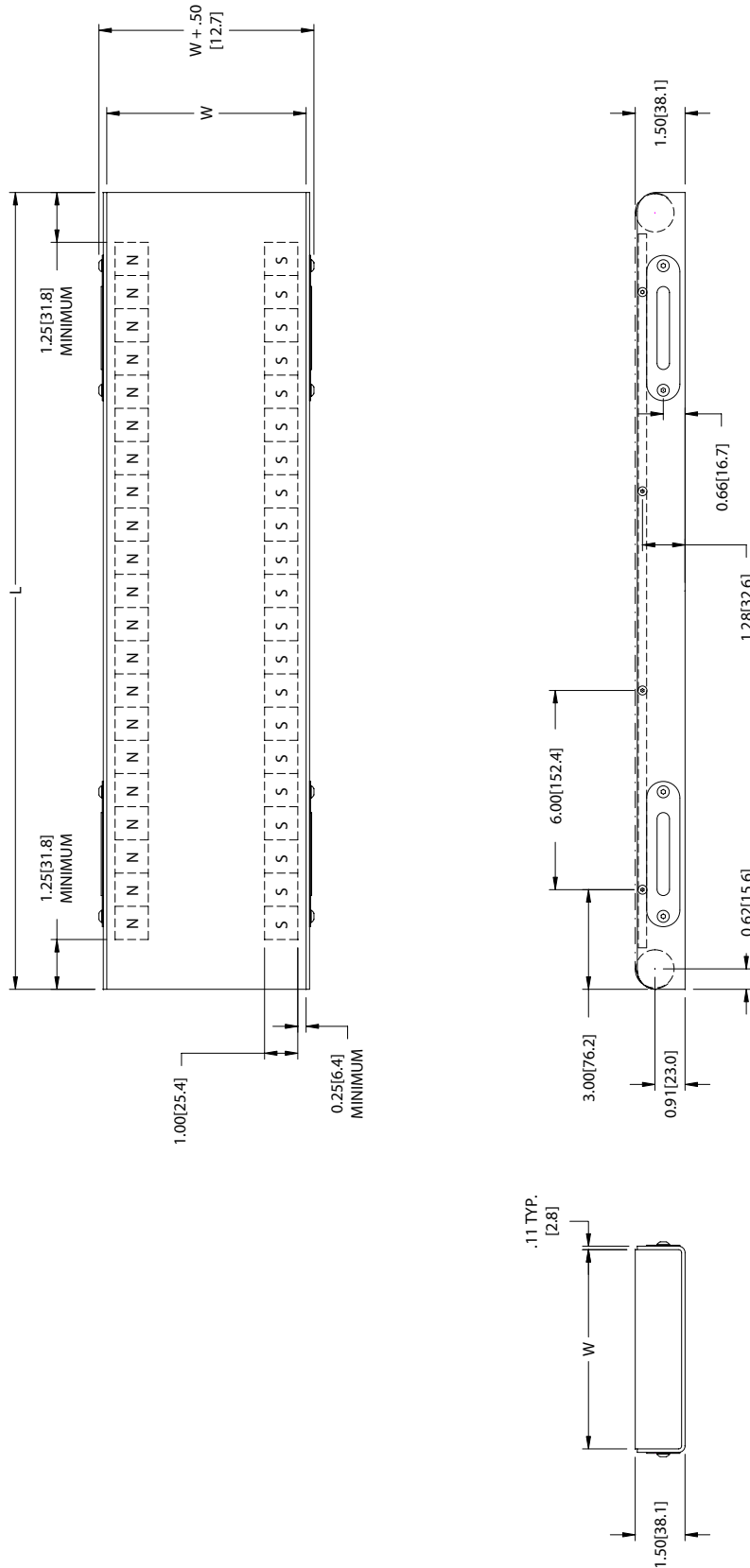
- Permanent ceramic magnets
- Width = 1" wide
- Strengths: Standard and strong
(Note: strong magnets are generally only used in centering or inverted applications)
- Rows: Generally 2 rows of magnets are used. One row oriented as north, the other as south. Multiple rows can be used for larger product or additional magnetic strength.
- Row Spacing: Generally spaced a 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 application.
- 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 splice is acceptable
- See Full Specifications Catalog Pg. 142 for details.

Mounting Packages and Gearmotors:

- All 4100 Series Mounting Packages and Gearmotors are application.
- See Full Specifications Catalog Pg. 146 & 152 for details.

Support Stands:

- All 4100 Series Support Stands are application.
- See Full Specifications Catalog Pg. 160 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 _____

PRODUCT

Description/material: _____

Dimensions: _____

Weight: _____ Total weight to be placed on conveyor: _____

Temperature: _____

ENVIRONMENT

Chemicals or fluids present: _____

Unusual ambient temperature conditions: _____

Other concerns: _____

CONVEYOR

Belt Width: _____ Conveyor length: _____

Belt speed: _____ Fixed 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: DC 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? No Yes 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? No Yes

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