

MD-180F

# *Metalarm Metal Detectors*

MODEL TR, BR, PL, PL2, VC AND HH-10



**INDUSTRIAL METAL DETECTORS DESIGNED TO PROTECT A WIDE  
RANGE OF MACHINERY FROM DAMAGING "TRAMP" METALS**



# Metalarm

## METAL DETECTORS

*Sensitivity is determined by a function of the width of the search coil, the height of the product and the type and size of the metal being detected. Sensitivity estimates are supplied on request.*

### FEATURES

- Easy to install
- Belt does not need to be cut to install
- Signal monitoring and self-check facility
- Mechanical relays to actuate reject devices and alarms
- High level immunity to radiated signals
- High density polyethylene encased search coils
- Detects ferrous and nonferrous metals
- CE certification



# Model TR

## TROUGHED CONVEYORS

For use with angled trough conveyors, Eriez' Model TR Metalarm is ideal for detecting large tramp metal. The Model TR is used in a variety of different industries such as wood, plastics, aggregate and mining. The Metalarm's lightweight design provides easy maneuverability and quick installation. In most cases, it can be installed with little or no adjustment to idler spacing. Units can be supplied for belt widths from 20 inches (500 mm) up to 80 inches (2000 mm). The Model TR Metalarm is equipped with either a Model 3500 or a Model 3500/QM2 control.



# Model BR

## TROUGHED CONVEYORS

Similar to the Model TR Metalarm, the Model BR Metalarm (bridge design) is excellent for detecting tramp metal in burden depths greater than 14 inches (356 mm). The Model BR Metalarm is available in a series (standard) or transmit/receive mode.

The transmitter/receiver coil combination is excellent for mineralized materials and also for use when nothing smaller than a certain size metal should be detected. This removes the risk of "nuisance trips" for small metal that will not damage machinery, thereby reducing costly downtime.

Its lightweight design makes it cost efficient to install on most trough belt conveyors. The Model BR Metalarm is equipped with either a Model 3500 or a Model 3500/QM2 control.



# Model PL

## FLAT BELT CONVEYORS

For flat belt conveyor applications, Eriez recommends a Model PL Metalarm. The Model PL is supplied with 6600, 3500 or 3500/QM2 Control.

The unit is easy to install and the Model PL is especially effective for picking up metal contaminants where the search coil is surrounded by metal conveyor frames or moving metal like mobile crusher applications.

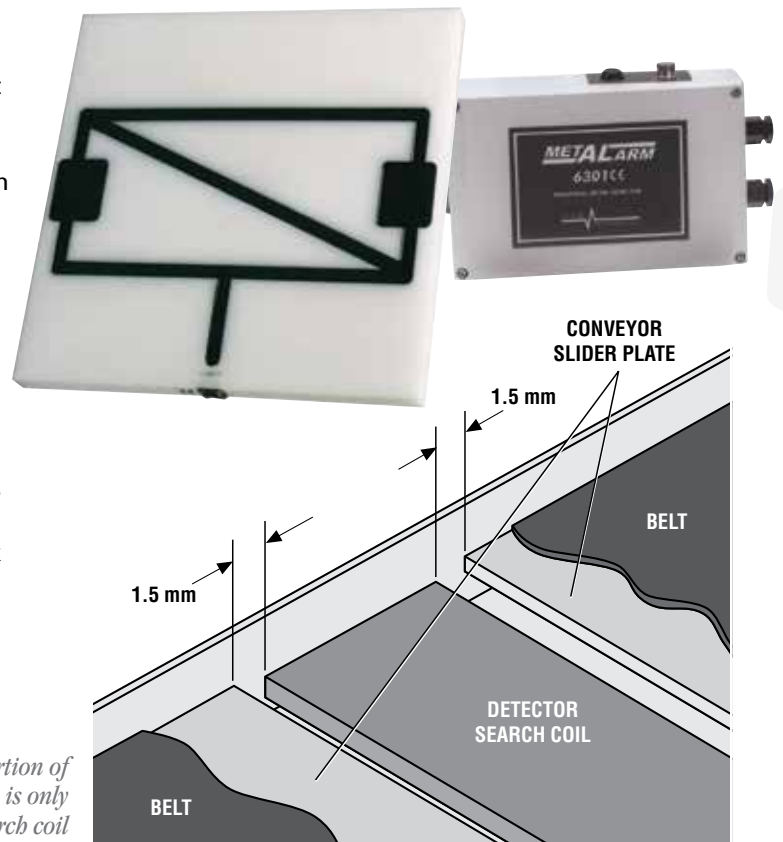


# Model PL2

## PLASTICS INDUSTRY

Eriez' Model PL2 Metalarm Metal Detector has been specifically developed for direct attachment to lightweight conveyors used to feed granulators with tops and tails, sprues, etc., from molding machines of all types. It will prevent the majority of small metal pieces of all types from entering granulators, damaging blades and contaminating the granules produced.

The sensing height of the detector is optimized for this application and covers the whole width of the belt even to the metal sides of the conveyor. The search coils are easy to install, simply replacing a length of the base conveyor over a distance equal to the width of the conveyor. The Model PL2 is available with multiple coils. The "SF" coil can be used where there are metal sidewalls in the conveyor. The economical Model PL2 comes with a Model 6600 control that is small, light and has self-check circuitry, as well as fail-safe features, and is suitable for conveyor belt widths up to 20 inches (508 mm).



*Note: Cut away portion of conveyor slider plate is only 3mm larger than search coil*

**Method of Installing Search Coil**

# Model VC

## VIBRATORY CONVEYORS

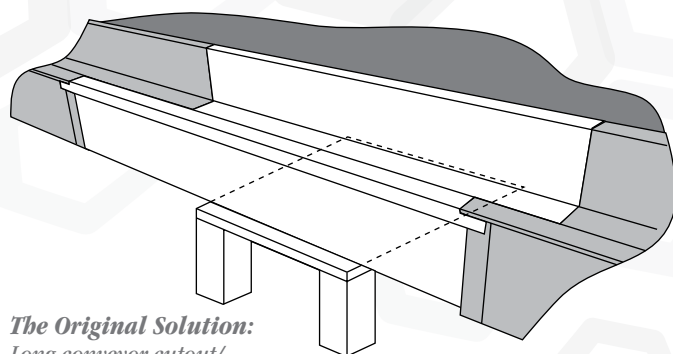
The Eriez Metalarm Model VC Metal Detector offers an all-in-one unit including search coil and metal-free section. It is supplied with a Model 3500 Control connected to the search coil that is integrated into the tray's trough section. When metal is detected, the conveyor and material flow is stopped to allow manual removal of the metal. Audible and visual alarms are available as optional extras.

### FEATURES & APPLICATIONS:

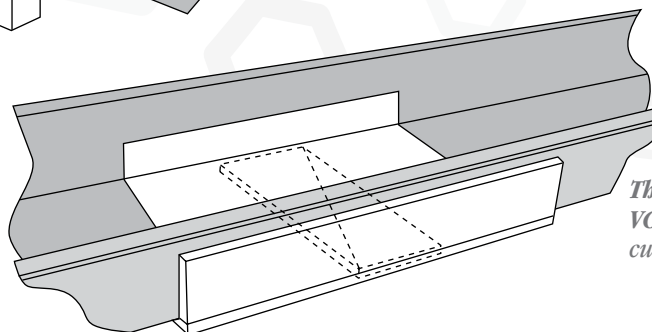
- **No need to install a long metal-free section. At most, a 3.3' (1 m) cut-out in the base of the conveyor is all that is needed**
- **Ease of installation – no support framework required**
- **No 'product compensation' required – pulse induction electronics do not need such controls. The result is a savings in labor and material**
- **Protection - To detect tramp metal in vibratory feeders and protect crushers, granulators, chippers, etc. from damage**
- **Quality Control - To check that products being fed by vibratory feeders prior to packing are not contaminated with metal**



*Model VC Eriez Metalarm installed on a vibrator conveyor protecting a chipper*



*The Original Solution:  
Long conveyor cutout/  
separate search coil*



*The Eriez Metalarm Model  
VC Solution: Short conveyor  
cutout/integrated search coil*

# Metalarm HH-10

## HAND HELD

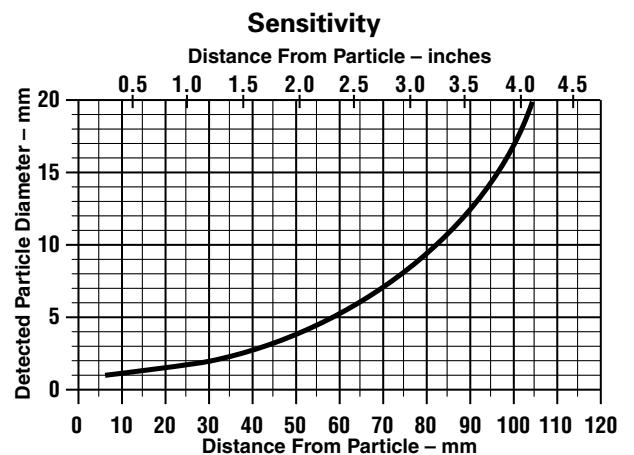
Eriez' Metalarm Model HH-10 Hand-Held Metal Detector is designed to locate the exact position of small pieces of unwanted tramp metal. The detector activates audio and visual alarms whenever metal is present.

This durable, lightweight and sensitive device can be used in a variety of industries that currently employ an existing in-line metal detector. The HH-10 should be used after a detection has occurred and the product flow has stopped.

For example, when used in the aggregate industry, the HH-10 will scan shallow burdens on non-metallic surfaces, detect tramp metal and allow for quick recovery. This will greatly reduce costly downtime of conveyors and production equipment.

The HH-10 is also ideal for use in companies that manufacture thin, webbed products such as textiles, garment, particle board and pulp and paper products. This highly sensitive instrument will detect minute pieces of metal as small as 1 mm, protecting consumers and downstream equipment.

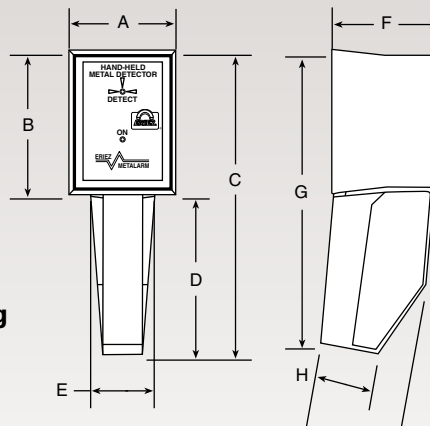
No batteries required! The plug-in-and-go design ensures consistent voltages, which optimizes sensitivities unlike battery-operated units which lose sensitivity.



## Specifications

### FEATURES & SPECIFICATIONS:

- Electronics pre-set at the factory
- LED Power On and Detect indicators
- Lightweight
- Easy to handle and operate
- Rugged yellow polyamide housing
- Audio alarm
- Flexible 10' (3 m) power cord
- Either 110 or 230 volts, 50 or 60 Hz
- Detects .039" (1 mm) ferrous and nonferrous at a distance of 0.3" (8 mm) and .078" (2 mm) ferrous and nonferrous at a distance of 1.1" (28 mm)



Model No.	HH-10	
	in	mm
A	3.35	85
B	4.53	115
C	9.29	236
D	4.76	121
E	2	51
F	3.35	85
G	8.70	221
H	1.85	47
I	3.03	77
	<b>lb</b>	<b>g</b>
Net Weight	1.6	720

# Control Units

All Metalarm Control Units employ proven 'pulse induction' technology circuitry, and are mounted on a single printed circuit board to give high reliability and easy access for servicing. All controls, other than the front door reset switch and 'on' lamp, are mounted on printed circuit boards for the same reason. All optional functions are switchable for ease of set up. Plug-in connectors are used for ease of installation and servicing.

Eriez manufactures a wide range of search coils for use with a Model 3500, 3500/QM2, and 6600 control. All Metalarm search coils are fully screened, reducing unwanted emissions. The coil has a plug-in connection and is linked to the control unit by means of coaxial cable.

The maximum cable length for the Model TR, BR and VC Metal Detectors equipped with either a 3500 or 3500/QM2 Control is 66-feet. The maximum cable length for the Model PL Metal Detector with a 3500 or 3500/QM2 Control is 32.8-feet (9997.44 mm). On the Model PL2 Metal Detector, the maximum cable length is 32.8-feet (9997.44 mm).

The Metalarm 3500 control is the standard unit for installation where no metal belt splice exists. The Metalarm 3500/QM2 control is similarly designed for use in harsh environments, and can be used with conveyor belts that are joined by metal belt clips. The 3500/QM2 is designed to detect larger pieces of metal when the metal is on top of the clips, and the sensitivity level has been reduced.

## Specifications

### Models 3500 & 3500/QM2

<b>Housing</b>	NEMA 4 carbon steel - beige paint finish (Model 3500) NEMA 4X stainless steel. (Model 3500/QM2)
<b>Dimensions</b>	15.75 x 13.75 x 6.0 in (400 x 350 x 150 mm)
<b>Weight</b>	17.6 lbs (8 kg)
<b>Mounting</b>	Four corner - wall mounting
<b>Electronics</b>	115/230V, 50/60Hz. Four Form C relay contact outputs rated at 5A/250VAC "Detect" and "Power On" lamps as well as a 10 segment LED signal display supplied as standard

### Model 6600

<b>Housing</b>	NEMA 4
<b>Dimensions</b>	10.24 x 5.5 x 3.27 in (260 x 140 x 83 mm)
<b>Weight</b>	3.9 lbs (1.79 kg)
<b>Electronics</b>	115/230V, 50/60Hz operation - field switchable Two Form C relay contact outputs rated at 5A/250VAC Visual alarm - metal detected Reset switch

### Interconnection Cables

<b>Cable type</b>	Coaxial type RG 58	
<b>Standard length</b>	Model TR and BR: 66 feet (max.) Model PL and VC: 16 feet (max.) Model PL2: 3 feet (max.)	
<b>Auxiliary Equipment</b>	Exterior alarms Bag dropper system Ink jet marker system Flag drop marker system	Multiple alarm register Single delay circuit Constant voltage transformer Trip counter

*Dimensions and specifications are subject to change without notice.*

*NOTE: Some safety warning labels or guarding may have been removed before photographing equipment.*

# Engineering Services and Technical Center

AT ERIEZ

## ERIEZ PROVIDES ENGINEERING SERVICES TO COVER A WIDE RANGE OF FUNCTIONS, ASSISTANCE, AND SUPPORT

- Design and equipment modifications incorporating specific features and options. The separator may incorporate various options and features applicable to the process.
- Equipment layout and dimensional drawings. Modifications are common to fit an existing plant or provide specific operating characteristics.
- Equipment selection, sizing, material flows and balances. Eriez has a database for accurate separator sizing and separation performance.
- In-plant audit to determine iron contamination levels, production flow rates, material handling aspects, equipment selection and sizing, and predict performance.

## Eriez Technical Center



The Technical Center at Eriez provides material testing services and is the most complete and advanced laboratory facility of its kind anywhere in the industry. Located in Erie, PA, a wide variety of magnetic separators are available to evaluate an extensive range of separation applications. High intensity magnetic separation tests are typically carried out to assess separation performance on a representative sample to characterize the separation parameters. A series of separation tests are conducted investigating the effect of the different separation variables specific to the material. The test work may extend from the basic bench scale feasibility stage through to an extensive pilot plant program dependent on the assessment required. All test work culminates in a report detailing the test work and equipment recommendations.

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