

# SAFESCAN® FERROMAGNETIC DETECTION SYSTEMS

FOR MRI SAFETY



**YOUR IMAGE IS SAFE WITH US**

 **ETS·LINDGREN**<sup>®</sup>  
An ESCO Technologies Company



# THE IMPORTANCE OF FERROMAGNETIC SCREENING.

## WHY DOES MY FACILITY NEED A FERROMAGNETIC DETECTION SYSTEM?

Today's MR magnets are so powerful that a ferrous item can be drawn into the scanner quickly and at a high rate of force. Unfortunately, failure to detect ferrous items have led to MRI accidents, some resulting in bodily injury and/or damage to MRI equipment.<sup>1</sup> Early detection of these items is critical to providing a safe MR environment for your patients and staff.



## ARE THERE GUIDELINES IN PLACE REGARDING FERROUS MAGNETIC DETECTION?

Requirements vary by state, licensing and accreditation bodies, and many facilities establish their own requirements based upon recommendations from these different bodies.

The American College of Radiology (ACR), The Joint Commission and the Veterans Health Administration (VA) have all published best practices or accreditation requirements for scanning individuals and objects entering an MRI suite.

## IS THERE A SINGLE SOLUTION TO SCANNING FOR FERROMAGNETIC THREATS?

Various locations in an MRI facility require different solutions for detection. The SAFESCAN product line allows you the flexibility to setup your safety protocols and place the necessary tools in the right places to achieve your goals.

For example, a SAFESCAN Screener is used to enhance the safety screening process of the patient. These devices are more sensitive in order to identify very small objects. In contrast, a Pass-through FMDS is used to protect the MRI from accidents that could happen with hospital staff, including cleaning and maintenance personnel. It is also a secondary check on the patient before taking them into the MRI room.



# MRI SAFETY STARTS WITH SAFESCAN.

## WHAT MAKES SAFESCAN DIFFERENT?

Monitoring for ferrous threats is key to protecting your patients, staff and MRI equipment. ETS-Lindgren's SAFESCAN ferromagnetic detection systems (FMDS) provide excellent monitoring and scanning of these types of threats.

Our safety experts will work with you to understand the operational work flow, existing safety procedures, and unique requirements of your MRI suite. We will then offer a practical, well-conceived plan to ensure the most effective FMDS positioning possible.

With SAFESCAN's superior ferromagnetic detection systems and ETS-Lindgren's exceptional customer support, we offer the surest solution for the protection of patients, staff, and equipment.



## SUPERIOR PROTECTION WITHOUT DISTRACTION

ETS-Lindgren SAFESCAN FMDS Systems feature:

- Easy-to-operate design; no confusing alarms or lights
- Installation by ETS-Lindgren to ensure proper settings and usage
- Choice of pass-through, pass-by, and manual screening models
- No special electrical preparation is required; all SAFESCAN models use existing outlets
- For new or existing construction
- In-service and on-site training for SAFESCAN Dual Pillar, Single Pillar and Screener models

## ACR ZONES AND HAZARDS

### Technical Specifications

ACR Zones	Occupants	Hazards
Zone I	General Public	Negligible MRI Hazards
Zone II	Unscreened MRI Patients	Immediately Outside Area(s) of Hazard
Zone III	Screened MRI Patients/Personnel	Potential Biostimulation Interference and Access to Magnet Room
Zone IV	Screened MRI Patients Under Constant Direct Supervision of Trained MRI Personnel	Biostimulation Interference, RF Heating, Missile Effect and Cryogens

# PASS-THROUGH FERROMAGNETIC DETECTION SYSTEM

## SAFESCAN MODEL FMDS-100 DUAL PILLAR FMD SYSTEM

ETS-Lindgren's SAFESCAN Dual Pillar FMD System is the ideal solution for 24 hours a day, 7 days a week ferromagnetic detection. Designed to bracket a doorway or hallway with a pillar on each side, the SAFESCAN Dual Pillar System is equipped with the industry's highest sensitivity settings and provides the highest degree of ferrous detection for a 'walk by' FMDS. ETS-Lindgren Safety Experts will help you select the best positioning, sensitivity settings and lights/audible alarm combination for your situation, and will perform on-site installation and training.

### FEATURES:

- Always on automated scanning
- Wall-mounted or optional floor stand available
  - Audible alarm option
  - Adjustable sensitivity
  - Additional options available; contact your sales representative
- Conforms to ACR, Joint Commission and VA Best Practices Documents
- Safety experts available to enhance effectiveness of integrating FMDS into your procedures
- Installed by factory trained technicians with on-site training



### Specifications

#### Product

Pillar Spacing	66 cm to 137 cm 26 in to 54 in
Control: Day/Night Mode	Rocker Switch
Control: Volume	Variable Rotary Knob
Control: Sensitivity	Multi Position Rotary Switch with Key Lock
Visual Indicator: Green Light	Proceed; Ferromagnetic Item Not Detected
Visual Indicator: Red Light	Stop; Ferromagnetic Item Detected
Audio Indicator: Buzzer OFF	Proceed; Detection Threshold Not Exceeded
Audio Indicator: Buzzer ON	Stop; Ferromagnetic Item Detected (Two-tone, 2.5 kHz to 3.8 kHz Audio Frequency)
Circuit Activation	Sensor Activates Ferromagnetic Alarm Function on Interruption of Beam
Alarm Management	Gradiometers Used to Filter Out Nearby Moving Metallic Objects and Electromagnetic Signals to Reduce Nuisance Alarms
<b>Electrical</b>	
Power	100 to 240 VAC 50/60 Hz 0.06 A Maximum 0.03 A Nominal
Safety Listings	UL Listed E210311, CE Mark





# PASS-THROUGH FERROMAGNETIC DETECTION SYSTEM

## SAFESCAN MODEL FMDS-300 SINGLE PILLAR FMD SYSTEM

Constantly on and sensing for ferrous objects, the SAFESCAN Single Pillar FMD System protects your MRI suite 24 hours a day, 7 days a week. A SAFESCAN Dual Pillar System is recommended to capture a larger sensing area, however when you are unable to physically place a detection pillar on both sides of a hallway or doorway, the SAFESCAN Single Pillar System is the solution for you. To ensure its proper placement and operation, ETS-Lindgren Safety Experts will assist in determining the best location for your SAFESCAN Single Pillar System and will perform on-site installation and training.

### FEATURES:

- Always on automated scanning
- Wall-mounted or optional floor stand available
  - Audible alarm option
  - Adjustable sensitivity
  - Additional options available; contact your sales representative
- Conforms to ACR, Joint Commission and VA Best Practices Documents
- Safety experts available to enhance effectiveness of integrating FMDS into your procedures
- Installed by factory trained technicians with on-site training



### Specifications

#### Product

Pillar Location	Single Pillar System
Control: Day/Night Mode	Rocker Switch
Control: Volume	Variable Rotary Knob
Control: Sensitivity	Multi-position Rotary Switch with Key Lock
Visual Indicator: Green Light	Proceed; Ferromagnetic Item Not Detected
Visual Indicator: Red Light	Stop; Ferromagnetic Item Detected
Audio Indicator: Buzzer OFF	Proceed; Detection Threshold Not Exceeded
Audio Indicator: Buzzer ON	Stop; Ferromagnetic Item Detected (Two-tone, 2.5 kHz to 3.8 kHz Audio Frequency)
Circuit Activation	Sensor Activates Ferromagnetic Alarm Function on Interruption of Beam
Alarm Management	Gradiometers Used to Filter Out Nearby Moving Metallic Objects and Electromagnetic Signals to Reduce Nuisance Alarms

#### Electrical

Power	100 to 240 VAC 50/60 Hz 0.06 A Maximum 0.03 A Nominal
Safety Listings	UL Listed E210311, CE Mark



# SCREENER FERROMAGNETIC DETECTION SYSTEM

## SAFESCAN MODEL FMDS-200 SCREENER FMD SYSTEM

### FEATURES:

- Scan on demand
- Wall-mounted or optional floor stand available
- Adjustable sensitivity
- Conforms to ACR, Joint Commission and VA Best Practices Documents
- Safety experts available to enhance effectiveness of integrating FMDS into your procedures
- Installed by factory trained technicians with on-site training

The SAFESCAN Screener FMD System aids your staff in the screening process of the patient. To operate this 'scan on demand' device, simply activate the screener and have the patient perform a 360 degree turn. The unit will then audibly alert you to the presence of any ferrous materials remaining on the patient. Additionally, the SAFESCAN Screener provides screening of staff who need to perform work in the MRI room. This is key to preventing cleaning accidents, maintenance accidents, and accidents caused by items left in pockets, such as keys or cell phones.

Just like the SAFESCAN Dual and Single Pillar Systems, the SAFESCAN Screener System can be wall-mounted or installed with a stand-alone base.

### Specifications

#### Product

Control: Day/Night Mode	Rocker Switch
Control: Volume	Variable Rotary Knob
Control: Sensitivity	Multi Position Rotary Switch with Key Lock
Visual Indicator: No Light	Proceed; Ferromagnetic Item Not Detected
Visual Indicator: Red Light	Multiple LEDs Indicate Strength of Signal
Audio Indicator: Buzzer OFF	Proceed; Ferromagnetic Item Not Exceeded
Audio Indicator: Buzzer ON	Stop; Ferromagnetic Item Detected (Variable Frequency Indicates Signal Strength)
Alarm Management	Gradiometers Used to Filter Out Nearby Moving Metallic Objects and Electromagnetic Signals to Reduce Nuisance Alarms

#### Electrical

Power	100 to 240 VAC
	50/60 Hz
	0.06 A Maximum
	0.03 A Nominal
Safety Listings	UL Listed E210311, CE Mark





# SCREENER FERROMAGNETIC DETECTION SYSTEM

## SAFESCAN MODEL FMDS-400 TARGET SCREENER

### FEATURES:

- Scan on demand
- Exceptional sensitivity
- Provides secondary physical screening of cleared patients
  - Extends FMD screening to include non-ambulatory patients
  - Targeted ferromagnetic detection
- Conforms to ACR, Joint Commission and VA Best Practices Documents
- Recommended by ACR for screening of external objects/devices
- Safety experts available to enhance effectiveness of integrating FMDS into your procedures



SAFESCAN Target Screener is specifically designed to pinpoint ferromagnetic objects on the patient. As an adjunct to the facilities' patient screening process, the SAFESCAN Target Screener provides that one extra step to ensure the safety of the patient and protection of the MRI scanning equipment.

Especially useful when patients are non-ambulatory and may be transported in wheelchairs or gurneys, the SAFESCAN Target Screener may be used to separate the detection of ferrous components of a wheelchair or gurney from something that the patient may possess.

Note: The SAFESCAN Target Screener is not meant to be used inside of the MRI room.

### Specifications

#### Product

Mount	Hardwood Wall Mount
Control: On/Off	On/Off of Device
Control: Volume Level	High/Low Audio Indicator
Visual Indicator: No Light	Proceed; Ferromagnetic Item Not Detected
Visual Indicator: Red Light	Stop; Ferromagnetic Item Detected
Audio Indicator: Buzzer OFF	Proceed; Ferromagnetic Item Not Exceeded
Audio Indicator: Buzzer On	Stop; Ferromagnetic Item Detected

#### Electrical

Power	100 to 240 VAC
	50/60 Hz
	0.06 A Maximum
	0.03 A Nominal
Safety Listings	UL Listed E210311, CE Mark



# YOUR IMAGE IS SAFE WITH US

## ADDITIONAL PRODUCTS AND SERVICES FOR YOUR MRI FACILITY

In addition to MRI safety solutions, ETS-Lindgren is the global leader in MRI shielding solutions and shielding services. With more than 10,000 installations globally, ETS-Lindgren provides shielding solutions that are functional, beautiful, and most of all, dependable. Our shielding products include:

- Shielded MRI Rooms
- Shielded Doors, Floor and Windows
- MRI Suite Lighting
- Oxygen Monitors

ETS-Lindgren's MRI Services Group of dedicated professionals strives to provide you with the best services and keep your MRI suite performing at the highest level possible. We approach problems with an extensive base of scientific knowledge and practical experience, giving us the ability to solve problems that elude others. Our services include:

- Facility Design
- Testing Including Vibration Analysis
- Maintenance and Repair
- Shielding Upgrades
- Room Relocation

As a company, our goal is to ensure you can provide your clients with the best MRI results possible. In other words, Your Image is Safe with Us.



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