



Magnets | Material Handling
Electronic Inspection | Service

intell-i-mag Smart Magnets

Exclusively on MPI Magnetic Separators

Patent #10,543,492

Note: all screenshots from Intell-I-Mag® controller

MAGNET STATUS
MAGNET SATURATION LEVEL: 0%

0% 100%

MENU PRESS TO CYCLE MAGNET

MAGNET METRICS

MAGNET ID: 72468
MAGNET SATURATION: 18%
TIME SINCE LAST CLEANING: 6 HOURS
NUMBER OF CLEANING CYCLES: 6
POSITION LOCATION: CLOSED
CURRENT TEMPERATURE: 78°F/25.6°C
MAXIMUM TEMPERATURE: 100°F/37.8°C

MENU PRESS TO CYCLE MAGNET

Intell-I-Mag® is the next revolutionary step in magnetic separation innovation and factory automation. It's the first Smart Magnet to self-monitor ferrous metal saturation in real-time and log system data. Intell-I-Mag® monitors ferrous contamination of incoming ingredients, detects equipment malfunctions before scheduled cleanings, ensures fully saturated magnets are cleaned before metal events occur, reduces shutdowns for premature magnet cleaning, and ensures the separator is always working at peak performance, capturing weakly magnetic materials, such as work-hardened stainless.

Real Time Monitoring for Peak Magnetic Performance:

- Internal sensors monitor tramp metal saturation levels and alert staff before an incident can occur. Once magnet reaches the designated level, it notifies plant personnel of required cleaning or can activate the automated self-cleaning system.
- Oversee vendors during material unloading for earlier metal detection to reduce damage in production process.
- Avoid challenges caused by equipment failures, inadequate magnet cleaning intervals or inaccessible equipment.

Saturation Level Indicators:

- As captured metal increases and magnetic performance decreases, LED signal indicators signal separator saturation:
Green - separator is operating at peak performance
Yellow - separator is near 50% saturation
Red - separator is 100% saturated and cannot retain anymore tramp metal, needs cleaning immediately
- Alert limits can be set by the designated personnel and password protected.

Customized Reporting for Quality Compliance Initiatives:

- Data collection improves analysis of magnetic separator performance, including magnet saturation, cleaning alerts, temperature monitoring, cleaning cycles and position location.
- Operators establish a higher level of metal control and create a stronger quality management plan for programs such as HACCP, ISO, BRC, IFS and SQF.

Industry 4.0 Ready - Magnet Metrics Controller:

- Industry 4.0 compliant PLC controller allows for communication between controller and network for remote magnet monitoring and control

Built for the Harshest Environments:

- Controllers are rated for appropriate installation environments, including liquid tight for washdown and hazardous classified locations.

Magnet Status - Saturation Levels

MAGNET STATUS
MAGNET SATURATION LEVEL: 0%

0% 100%

MENU PRESS TO CYCLE MAGNET

MAGNET STATUS
MAGNET SATURATION LEVEL: 49%

0% 100%

MENU PRESS TO CYCLE MAGNET

MAGNET STATUS
MAGNET SATURATION LEVEL: 94%

0% 100%

MENU PRESS TO CYCLE MAGNET

*Specifications subject to change

Series Intell-I-Mag® Plate Magnet Version 1.0 © MPI

Controller Options

<i>Feature</i>	<i>Option</i>
Target Metal	Fines, medium or large
Interface	7" HMI touch screen standard, larger screens available as well as remote interface
PLC Controller	MPI standard included, Allen Bradley and Siemens available
3 Color LED lights indicating level of metal build up	Included
Available Inputs	Clean magnet
Available Outputs	Magnet Saturation % Last Cleaning Cycle Time # of Cleaning Cycles Temperature Position Confirmations
Panel Rating	NEMA 12X, NEMA 4X
Controller / Magnet Connection	Standard network cable with RJ45 Cat 5 connectors

Intell-I-Mag® Controllers are Available for Most MPI Magnetic Separation Products

Gravity Bulk Free Flowing Magnets	Pneumatic Conveying Magnets	Liquid Pipeline Magnets
		

Intell-I-Mag® Frequently Asked Questions

Am I able to add Intell-I-Mag® to my existing MPI magnetic separator?

The Intell-I-Mag® smart magnet controller is only available with new magnetic separation systems and cannot be retrofit.

How many Intell-I-Mag® magnetic separators can one controller manage?

Each Intell-I-Mag® controller is designed to manage one magnetic separation system.

What is the maximum distance between the controller box and magnetic separator?

The Intell-I-Mag® controller uses standard CAT5 Ethernet communication and can be located up to 1,500 feet away from the magnetic separator, if required.

Will the Intell-I-Mag® system be suitable for high pressure wash down applications?

The Intell-I-Mag® system can be rated NEMA 4X for wet applications or where high pressure wash down is required.

Is the Intell-I-Mag® system rated for hazardous locations?

The Intell-I-Mag® system can be rated for a required hazardous location.

What is the Intell-I-Mag® warranty?

MPI extends our standard warranty on the Intell-I-Mag® system.

Can I place my order(s) now for the Intell-I-Mag® smart magnet controller?

Yes, MPI is now taking orders for Intell-I-Mag® magnetic separation systems. Please contact MPI for a quote for your application.