

# Magnetic Filtration System

Sub-micron filtration for industrial fluids in precision machining & wash system applications



# Magnetic Technology with an Edge

📍 Reykjavik, Iceland





# Our Story So Far...

100 Years of Magnetic Innovation

We are firmly established as a leading manufacturer and supplier of magnets and magnetic equipment.

We provide magnetic solutions to all major industry sectors, delivering profit, productivity, protection, and compliance. Supplying diverse ranges of magnetic products through various channels, including international industrial catalogues, wholesalers, merchants, representatives and agents.

Benefiting from five differently skilled and dedicated sales teams, each with their own specialism enables us to manage and deliver multimillion pound projects and supply contracts, often to tight deadlines.

Supplying some of the world's most prestigious brands within the Automotive, Aerospace, Manufacturing, Processing, Oil & Gas and Heating & Ventilation sectors across more than one hundred countries, all supported by our global employees and offices.

Holding various ISO accreditations, and in conjunction with benefiting from our own design engineering capabilities, we are ideally placed to offer standard and bespoke solutions into the most demanding of applications and industry sectors.

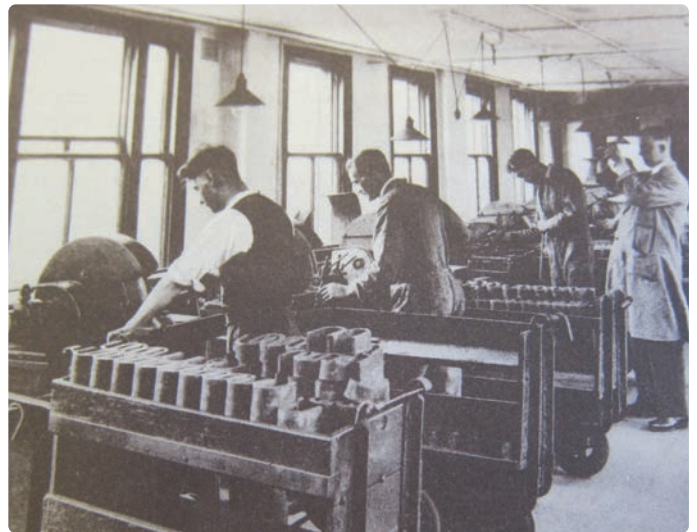
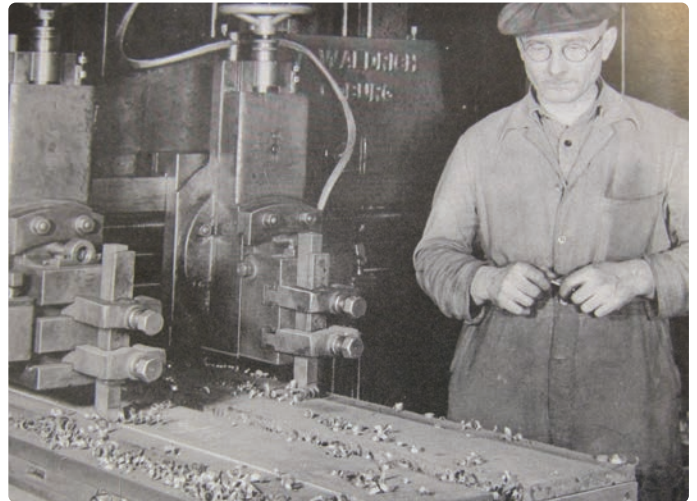
We're committed to the environment and have a road map to reach Net Zero by 2040. We value all employees and are accredited to the Living Wage Foundation.

Contact us and we'll highlight what we can offer you.

📍 Atlas Way, Sheffield, S4 7QQ, England

🌐 [eclipsemagnetics.com](http://eclipsemagnetics.com)

☎ +44 (0)114 225 0600



## USEFUL APPLICATIONS.

1. HOME—Useful to householders for picking up pins, needles, tacks, screws and other small articles.
2. GARAGE—Ideal for retrieving lost nuts or bolts, etc., from inaccessible places. Can be easily suspended from a string or wire.
3. SCHOOL—A fascinating article for all boys with an inventive turn of mind—Particularly suitable for experimental work.
4. OFFICE—A convenient time saver for collecting paper clips, drawing pins, etc., from floors and desks.
5. WORKSHOP—Indispensable to the engineer or inspector for testing whether materials are magnetic.
6. LABORATORY—Invaluable as a handy magnetic detector—equally useful for demonstrating the magnetic properties of magnets.

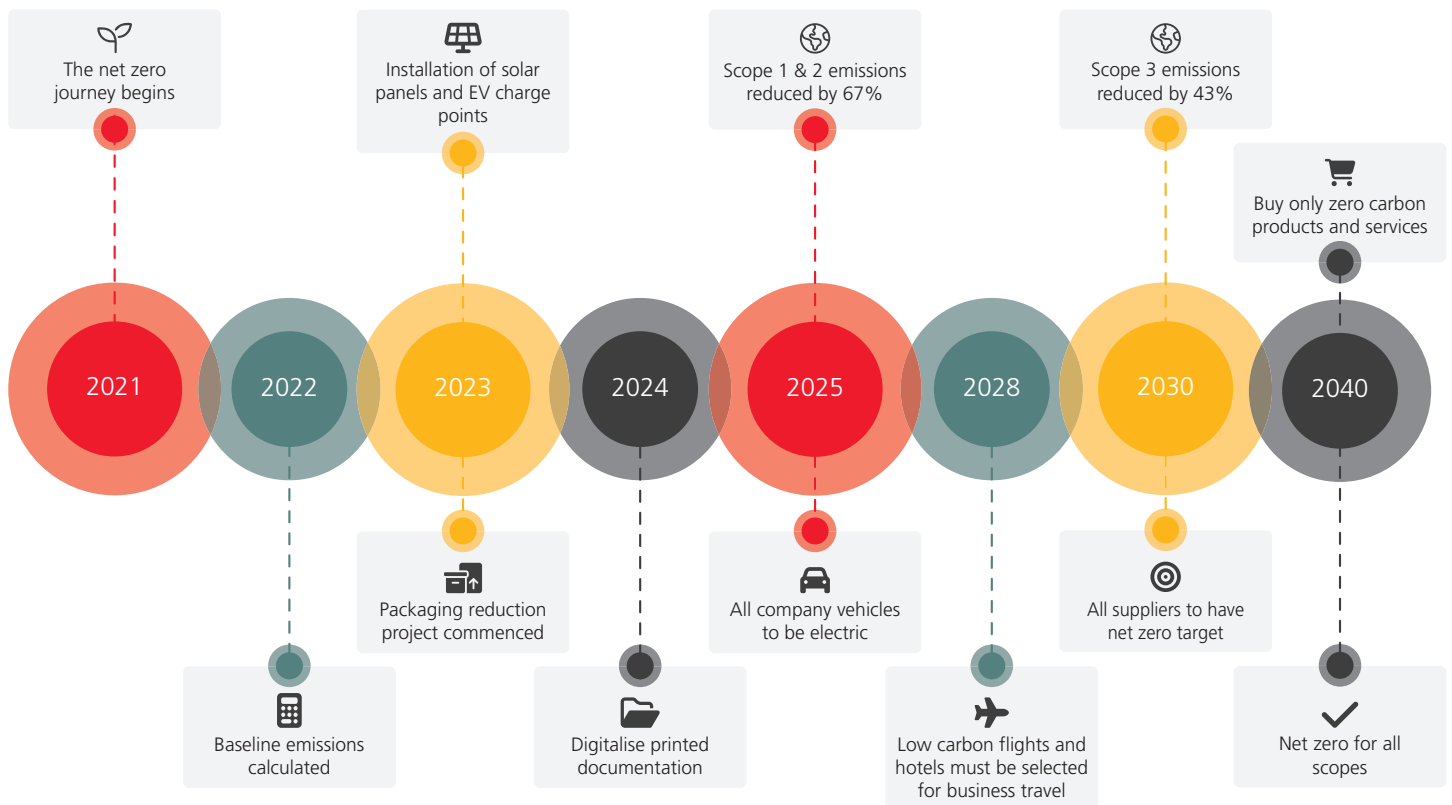



















# Our Promise

We believe that, together, we can secure a better future for our world

## Our Net Zero Journey



## The Eclipse Magnetics Difference

 Group buying power for raw materials.		 Standard or made to order products (application specific).	
	 Flexible approach for requirements from one off to multiple quantities.		 Multiple in-house testing facilities from factory to warehouse.
	 Large stock holding / warehousing capability.	 Sector-wide application and industry experience.	
			 Experienced staff with in-depth knowledge.
			 Full in-house manufacturing facilities.
			 Scheduling orders for call-off (JIT).

# Our Services

More than just a manufacturer



We can help you set up, be trained and maintain your products.

## Site Survey



### Annual Testing & Validation Service

At Eclipse Magnetics, we recognise the critical role foreign body removal equipment plays in maintaining the highest standards of safety and quality in your processes.

To support your commitment to compliance with BRC and HACCP regulations, we offer a specialised and comprehensive testing and validation service for foreign body removal equipment.

### Why Annual Testing Is Essential

This annual check ensures that your equipment continues to function optimally, providing reliable protection against contaminants and upholding the integrity of your production processes.

## Installation



### Our Expertise In Installation

We will work with you to arrange an installation schedule that minimises downtime and disruption to your business, helping you get up and running as quickly as possible so that you can begin to see the benefits of your new filtration system right away. Our experts are well-versed in the specifics of each product, ensuring that they are seamlessly integrated into your operations.

### Why Choose Eclipse Magnetics For Installation?

- Efficiency and Precision
- Product Familiarity
- Compliance And Safety
- Post-Installation Support

## Servicing



### Why Annual Servicing Matters

At Eclipse Magnetics, we bring our extensive knowledge and technical expertise to the forefront, offering dedicated servicing for magnetic lifters and chucks. Our servicing capabilities encompass a comprehensive range of tasks designed to enhance the efficiency and safety of your equipment.

### Our Service Offering Includes

- Detailed Inspection
- Functional Testing
- Component Replacement
- Documentation and Certification
- Calibration and Adjustment

## Training



### Permanent Magnetic Lifter Training

Magnetic lifters are an effective method to lift and handle ferrous materials such as steel beams and sheets. However, the safety of magnetic lifters relies on their correct usage and operation. Our permanent magnetic lifter training course will empower your team with the skills and knowledge they need to use magnetic lifters safely.

### What Our Lifter Training Covers

- Maintenance Procedures
- Safety Protocols
- Troubleshooting And Problem Resolution
- Equipment Familiarisation
- Load Handling Techniques



# Driving Competitive Edge

Into precision processes

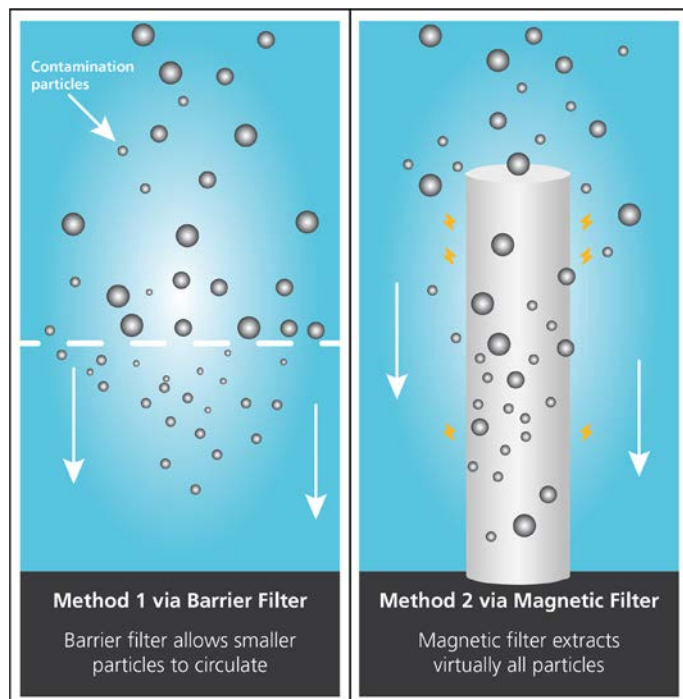
Our patented magnetic filtration systems are the ultimate in filtration technology, providing cost, quality and environmental benefits.

## Magnetic filtration operating principle

Magnetic filtration is the most effective means of removing problem ferrous particles from industrial fluids such as coolants, lubricants and wash solutions.

All the benefits of Eclipse Magnetic filters are based on their ability to remove virtually all ferrous particles, including sub-micron particles from the process. Traditional filtration systems typically leave particles smaller than 5 - 10 microns circulating in fluid causing damage to process equipment and finished products.

Magnetic filtration systems are ideal for either new build projects or they can be fitted to enhance existing filtration systems.



## Significantly lower operating costs

Cleaner, longer lasting fluids ✓

Removes almost 100% of ferrous contamination, including sub-micron particles. This can extend the life of fluids and reduce growth of bacteria, minimising maintenance costs and enhancing safety.

Reduced usage of consumables ✓

With efficient filtration capability, magnetic filters significantly reduce the burden on disposable items such as paper or cartridges. Thereby reducing expenditure on replacements and expensive disposal costs. In some cases it can remove the need for alternative filtration altogether.

Minimal fluid loss ✓

Contamination is removed from the filter as a semi-dry 'cake'. Fluid loss is considerably less than that of traditional filter media.

No disposal costs ✓

The cake itself can be recycled, eliminating expensive specialist disposal costs.

Minimal running costs ✓

Manually cleaned magnetic filters require no additional power. Magnetic self-cleaning filters only require a small amount of power for the cleaning process. Magnetic filters don't require any consumable or replacement parts.

Continuous 24/7 operation ✓

Fully automated magnetic filtration systems are ideal for continuous manufacturing lines.

Rapid return on investment ✓

Magnetic filtration is perfect for cost reduction and continuous improvement programmes providing a rapid return on investment.



# Increase Productivity

While still looking after our environmental impact

Magnetic filtration can be used as a replacement for, or in conjunction with other forms of filtration to optimise filtration efficiency.



## Maintain flow rates

High flow rates can be maintained without affecting filtration efficiency. Fluid does not flow through filter media, so flow is uninterrupted. Flow rates are determined by your process requirements, not by your filter.

## Reduced wear / increased precision finish

Particles that pass through traditional filters act as an abrasive, wearing parts, machinery and product. Magnetic filters remove these damaging particles.

## Fine filtration

Conventional filtration media, at 5 microns and below, can strip oils of anti-foaming, anti-bacteria and other additives. Magnetic filtration enables sub-micron filtration without affecting the oil's properties, and can actually aid the effective control of bacteria.

## Complies with health and safety guidelines

Magnetic Filters make a major contribution to promoting safe handling of metalworking fluids. Cleaner fluids reduce the risk of human contact with metal fines thereby reducing the risk of cuts, abrasions and dermatitis.

## Reduced microbial development

Magnetic filters do not strip anti-bacterial properties from fluids thereby reducing the risk of bacterial development. Ferrous contamination in fluids can also act as a breeding ground for bacteria. Maintaining clean, polished fluids considerably reduces the risk of bacterial build up.

## Automated operation & cleaning

Our automated filtration systems remove the need for operators to come into contact with contaminated fluids.

## Reduced Environmental Impact

A major consideration for any business is its responsibility to the environment. Magnetic filtration is a positive contribution to companies' environmental policies and ISO14001 accreditation.



## Reduced waste

Magnetic filtration requires no consumable or disposable products. It extracts a large proportion of ferrous contamination, drastically reducing the use of disposable filter media. Less fluid is used as its effectiveness is maintained for longer.

## Recycled waste

Extracts captured, ferrous contamination ready for recycling processes.



# Case Study - Micromag

## Dielectric Fluid Protection

Compact, high-performance machine tool filter, rapid return on investment.

### Application Background

The patented, compact Micromag magnetic filter can provide major cost, quality and environmental benefits to precision machining processes such as grinding, honing, lapping, drilling and EDM applications. With a high collection capacity relative to size it offers a fine particle collection performance with a low initial investment.

### The Challenge

EDM machining can, and often does, come with significant problems, severely hampering the efficiency of the process. Dirty dielectric fluid is one of the most problematic factors facing manufacturers when using spark erosion as part of their manufacturing processes.

Contaminated dielectric fluid can result in secondary sparking (re-spark), generating a high level of energy wastage.

### The Solution

Bowers Group is committed to ensuring its practices offer the highest level of efficiency. Looking for the most effective solution to ensure the EDM process was working as cost-effectively as possible, the company sought the help of Eclipse Magnetics, installing a Micromag MM20 to help improve its filtration of dielectric fluid. Eclipse Magnetics has introduced its innovative magnetic technology to the EDM process to ensure the dielectric fluid is kept as clean and efficient as possible. The Micromag MM20 is a compact filter that allows fluid to pass around its centrally mounted Neodymium core, capturing even the finest ferrous particles.

### Overview

Eclipse Product:	Micromag MM20
Industry:	Metrology Tools*
Process Type:	Electrical Discharge Machining (EDM)
Location:	Bradford, UK

By using the Micromag in conjunction with its traditional cartridge filters, cost savings have also been achieved in relation to the cost of replacement cartridges, cutting usage by half and leading to an impressive 50% saving of over £2500 per annum.

Combined, this amounts to an outstanding £142,500 annual cost savings, with a payback of the initial investment of the magnetic technology returned within just days of installation.

**17%**  
IMPROVEMENT  
IN  
MACHINING

**50%**  
SAVINGS OVER EACH  
YEAR

**SAVING  
100 HOURS  
IN  
PRODUCTIVITY  
EACH MONTH**

“

The reduction in machine downtime and consumable costs speak for themselves, the Micromag has proven its worth; and then some, and we're delighted with the results we have seen.



Dean Lovett, Machine Shop Manager  
Bowers Group

”



# Case Study - AM6 Automag Skid

## Ultrasonic Testing

Automated clean filter, flow rates up to 10,000 litres per min.

### Application Background

The Automag Skid magnetic filtration system is a self-contained filtration and fluid recovery system. The fully automated industrial fluid filtration unit or coolant separator minimises fluid loss during cleaning and is ideal for 24/7 high volume single or multi-cell CNC machining or wash system applications. The combination of high-performance magnetic circuits and a patented dual flow system ensures almost 100% of ferrous waste is filtered leaving clean cutting, grinding fluids or wash solutions to return to process.

### The Challenge

Due to the tight tolerances required by the off shore industry, it is imperative that the quality of the pipes is 100%. Product rejects can cost £1000 per piece and the consequences of a fault in the field can have huge compensation consequences. In order to ensure the highest levels of quality, the pipes are sent through a tempering, de-scaling, rounding, and straightening process. The last stage is an ultrasonic testing procedure to check for any faults such as cracks or wall thickness irregularities.

During this process, water is pumped around the ultrasonic test area at 100 litres per minute. Water is an excellent sound wave conductor, therefore it improves the reliability of the readings and makes the process more efficient. However, contamination in the water was affecting the readings, causing slow cycle times due to re-scanning and the possibility of a good product being rejected.

### The Solution

Eclipse provided Vallourec with a Double Automag AM6 magnetic filter. This filter is a fully automated unit ideal for 24/7 machining operations. With high contamination collection capacity and an ability to handle high flow rates, Automag is widely used on high volume production lines. In this case the customer opted for a Double Automag in order to have a fail-safe backup if required. The Automag was fitted during a system refurbishment which enabled the process to recycle water. It is fitted after a settlement tank and before a band filter, and extracts 0.56 kg of waste per day.

Most of the particles are concentrated between 6 and 15 microns, and the added advantage is that some particles which previously slipped through (less than 4 microns down to sub-micron size) are now extracted. Since fitting the Automag, Vallourec's maintenance downtime has dropped to zero. It also means that the company are able to use recycled water, which saves them £1000 a week.

### Overview

Eclipse Product: AM6 Automag Skid  
Industry: Offshore  
Process Type: Ultrasonic Testing  
Location: Glasgow, UK

“

We are delighted with the Automag installation; it's solved all the problems we were having previously with downtime and maintenance costs.

Kenneth McRae, Principle Engineer  
Vallourec



”



# Why Choose Magnetic Filtration

Real life examples

The best way to keep your machinery in excellent condition and product surface finish, is to use cleaner coolant or lubricant fluids.

## Automotive



### Advantages

- High precision finish
- Reduced downtime
- 100% effective with cast iron particles
- Ideal for 24/7 operation
- Flow rates up to 10,000 litres: multi-use to increase flow capacity

Magnetic filtration is widely used in the automotive industry within OEMs and tier 1 and 2 suppliers for the manufacture of powertrain and engine components.

### Typical Application

- Ring & pinion gear lapping
- Turbocharger balancing machines
- Crank shaft gun drilling
- Valve face grinding
- Cam shaft grinding
- Cylinder liner honing
- Engine liner grinding
- Gear cutting and finishing

## Case Study

### Company

Bombardier (Austria)

### Application

Cast iron piston bushings

### Process: Milling and gun drilling

Filtramag removed sub-micron particles reducing abrasive wear on tools and parts. Tool changes and product reject rates were reduced to virtually zero.

## Bearings



### Advantages

- High precision product finish, consistency and consistency
- Reduced downtime
- Sub-micron filtration
- Ideal for high volume processes
- Can be retrofitted to existing lines
- Rapid return on investment
- Reduced waste – ISO14001

Magnetic filtration is used by some of the world's largest bearing manufacturers to ensure sub-micron accuracy in the production of bearing components.

### Typical Application

- Hub honing
- Ball grinding
- Super-finish/polishing
- Ring grinding
- Raceway grinding
- Wash systems

## Case Study

### Company

Tsubaki-Hoover (Poland)

### Application

Steel ball and rollers

### Process: Super-finishing

MicroMag improved on 20 micron paper filters by extracting sub-micron ferrous particles. Surface finish was improved and reject rates fell dramatically.

## Wash Systems



### Advantages

- Flow rates up to 10,000 litres per minute
- Filters do not degrade in wash solutions
- Removes ferrous deposits from finished product
- Reduces reject rates

Many wash systems have benefited from installation of magnetic filtration which ensures the finished product is clean and complies with quality inspection.

### Typical Application

- Rotary wash systems
- Transfer wash stations
- Degreasing equipment
- Multi-stage washers
- Spray wash stations

## Case Study

### Company

Permoid (UK)

### Application

Automotive fuel tanks

### Process: Flushing rig

Reduced product reject rates to zero, reduced disposal and purchase of barrier filters by 95%.





## Steel Processing



### Advantages

- Automated cleaning ideal for heavy contamination
- Improved surface finish
- Reduced downtime
- Suitable for arduous environments
- 24/7 operation

Magnetic filtration can improve efficiency in most steel processing operations such as steel production, both hot and cold.

### Typical Application

- Steel rolling mills
- Sawing machines
- Steel pipe cutting
- Tube threading equipment
- Surface treatment processes
- Spray bars
- Roller lubrication
- Final wash process
- Deep hole drilling

## Case Study

**Company**  
Steelscape (USA)

**Application**  
Steel rolling and picking

**Process: Surface spray system**  
Heavy contamination blocked barrier filters within hours. AutoMag extracts 12000 Kg contamination / month – reject rates have fallen to zero.

## Machine Tool OEMs



### Advantages

- Can be retrofitted to enhance existing filtration systems
- Reduces machine maintenance / downtime
- Flow rates 70 to 10,000 litres per minute
- 100% effective with low magnetic materials e.g. cast iron and tungsten carbide
- Increases the equipment, value provides a solution for the customer

Magnetic filtration enhances performance on a variety of machine tools. It offers a competitive edge to machine tool manufacturers particularly when servicing high precision applications.

### Typical Application

- VMC, HMC, and CNC machines
- Multi-axis vertical turning centres
- Grinding
- Honing
- Lapping
- Deep hole/gun drilling
- EDM machines
- Laser cutters

## Case Study

**Company**  
Schaudt Mikroas (Germany)

**Application**  
CNC manufacture

**Process: Camshaft grinding**  
Reduced downtime by 50% and increased the life of grinding wheels by 30%.

## Tool Cutting



### Advantages

- Enables tolerances of < 1 micron
- Enables manufacture of "mirror" finish tools
- Can increase the value of tools by 300%
- 100% effective with low magnetic materials e.g. tungsten carbide materials
- Reduces wear on grinding wheels
- Ensures clear grinding contact
- Ideal for 24/7 or unmanned operations
- Significantly extends fluid life

Magnetic filtration enhances performance on a variety of machine tools. It offers a competitive edge to machine tool manufacturers particularly when servicing high precision applications.

### Typical Application

- Multi axes CNC machines
- Tungsten carbide drills and endmills
- Radius grinding
- Wood working tool superfinish
- "Mirror" finish plastic cutters

## Case Study

**Company**  
Pro-Cut Tooling (UK)

**Application**  
Carbon cutting tools manufacture / repair

**Process: Super-finish / grinding**  
Enabled manufacture of "mirror" finish cutting tools, reduced machine cleaning downtime by 75% and extended fluid life by 250%.

# Micromag

Patented Design

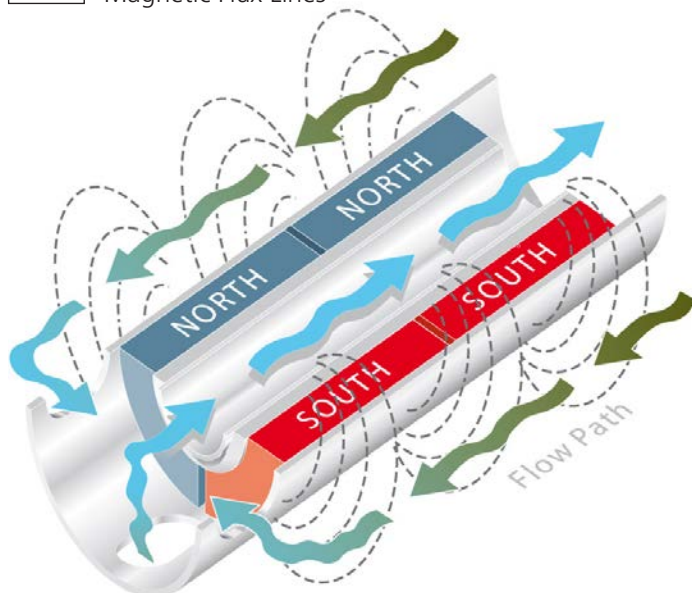
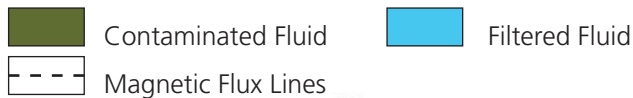


Low-cost, rapid payback magnetic filter.



Compact magnetic filter, easy to clean and install, high collection capacity relative to size.

## Key

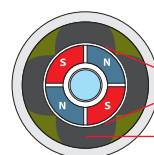


## How Micromag Works

Contaminated fluid enters the inlet port where flow is equally split via tapered radial flow channels which lowers the flow velocity ready for the fluid to be filtered.

It then passes up the outside of the centrally mounted 'Rare Earth' magnetic core where contamination particles are attracted and retained.

The magnetic flux circuit geometry ensures a controlled build up of contamination so the filter can never block. Filtered fluid then flows through slots at the top of the core then down and through the centre of the core, exiting through the outlet port.



Fluid continues to flow when filter is fully loaded with contamination

Contamination



## MM - 12 bar version

MM20	MM10	MM5
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The patented, compact Micromag will provide protection on most industrial fluids" Styrene Acrylo Nitrite & Aluminium Construction.



## MM - 50 bar version

MM5/HP/80	MM20/HP/50	MM10/HP/50
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For through-spindle coolant and pressure surge applications. Aluminium construction.



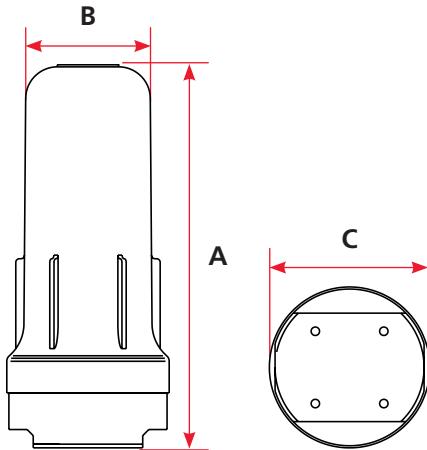
## MM - 80 bar version

MM5/HP/80	MM20/HP/80	MM10/HP/80
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For through-spindle coolant applications. Suitable for HICM Acidic / Alkaline Alumnius. Stainless steel construction.



### Technical Data



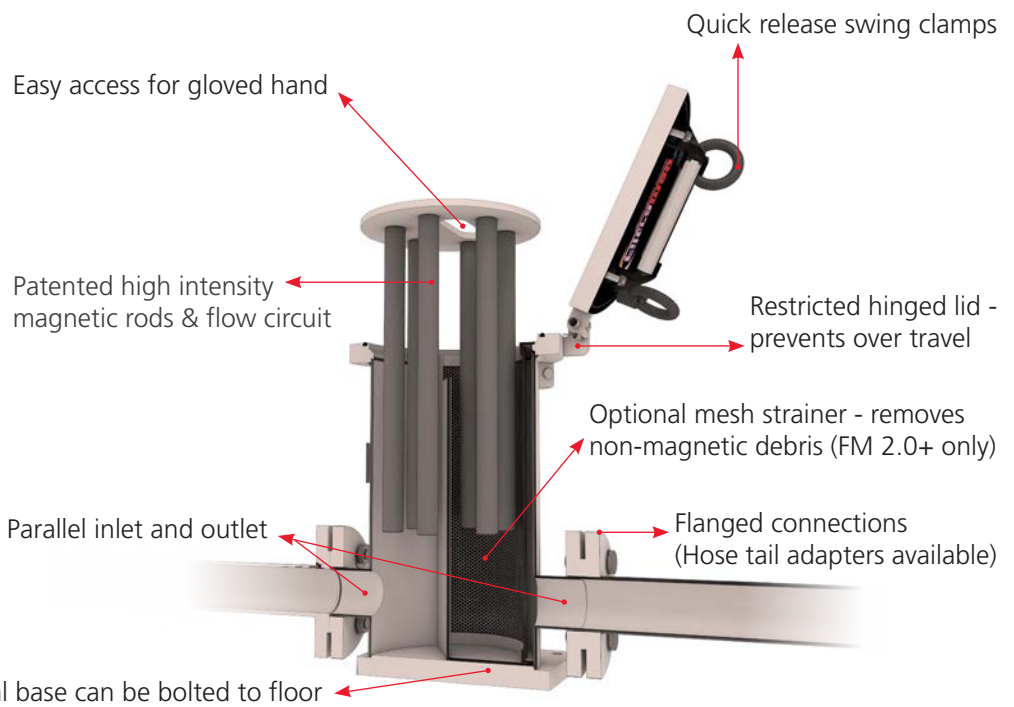
Product Number	Flow rate	Max. operating pressure	Connection	Temperature range	Construction	Dimensions mm		
	ltrs/min.	bar	" BSP	°C		A	B	C
MM5	70	12	1	5 – 50	SAN housing, Aluminium lid	190	95	103
MM10	100	12	1	5 – 50		315	100	124
MM20	150	12	1½	5 – 50		605	100	137
MM5/HP/50	70	50	1	-20 – 150	Full aluminium construction	247	116	125
MM10/HP/50	100	50	1	-20 – 150		365	116	125
MM20/HP/50	150	50	1½	-20 – 150		625	116	125
MM5/HP/80	70	80	1	-20 – 150	Full stainless steel construction	247	116	125
MM10/HP/80	100	80	1	-20 – 150		365	116	125
MM20/HP/80	150	80	1½	-20 – 150		625	116	125

# Filtramag+

Patented Design



High performance magnetic filter for demanding cutting fluid applications.



**Robust high performance magnetic filter with Dual Flow Technology to maximise collection capability. Easy installation with operation up to 20 bar.**

## Special Applications

Contaminated fluid enters the inlet port where flow is equally split via tapered radial flow channels which lowers the flow velocity ready for the fluid to be filtered.

It then passes up the outside of the centrally mounted 'Rare Earth' magnetic core where contamination particles are attracted and retained.

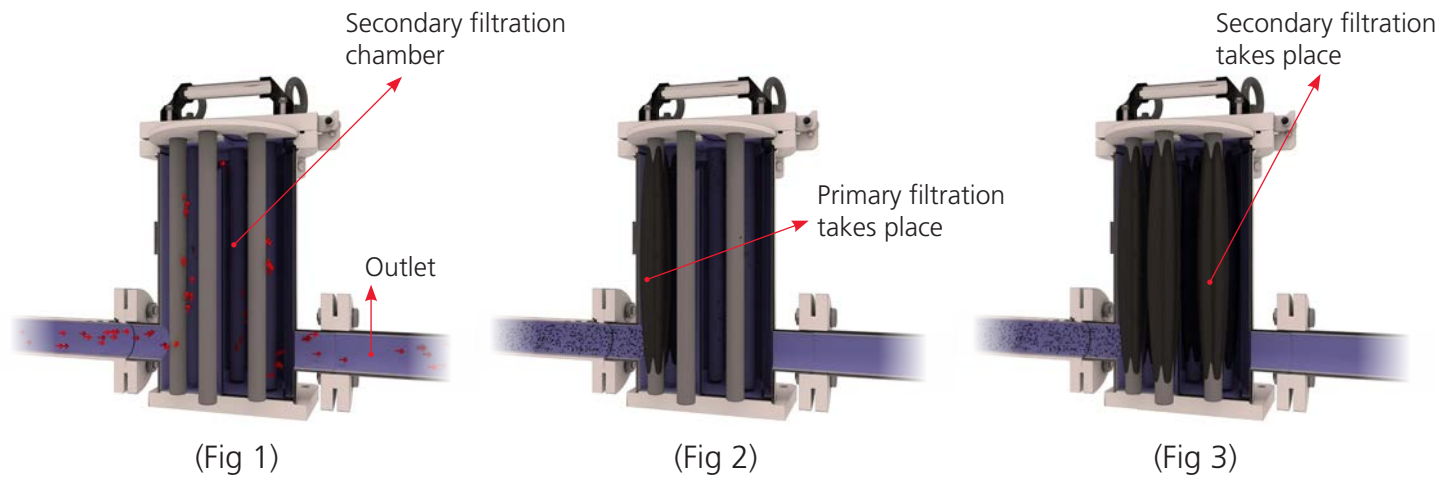
The magnetic flux circuit geometry ensures a controlled build up of contamination so the filter can never block. Filtered fluid then flows through slots at the top of the core then down and through the centre of the core, exiting through the outlet port.

Ideal for use in a harsh chemical environments  
Effective with carbide and cast iron applications.





How Filtration+ Works

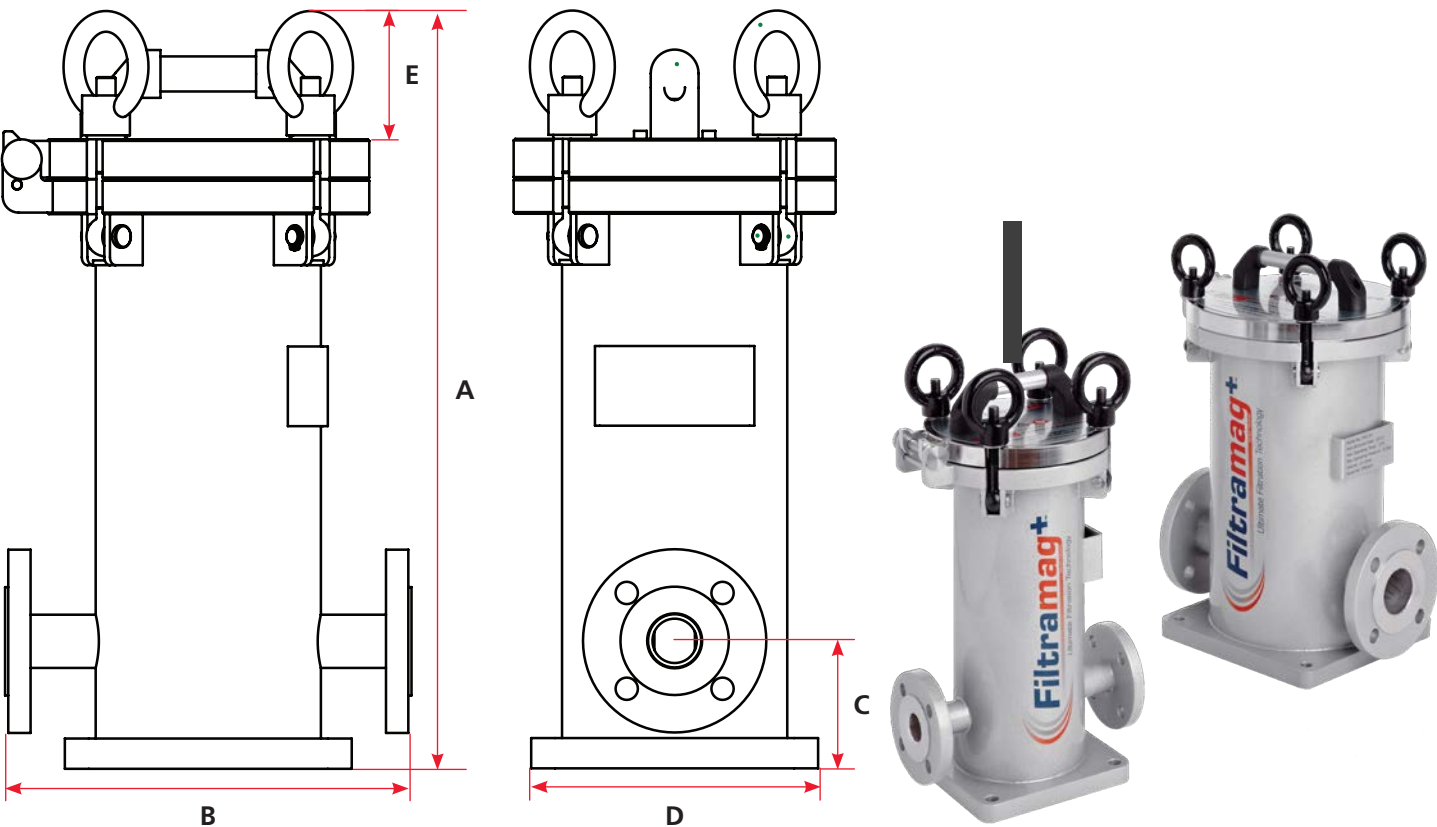


With a unique “Dual Flow Technology™” design (Fig 1) Filtration+ is the most efficient filter of its type available. The dual flow design ensures that fluid is exposed to the high intensity magnets for the maximum time. Fluid enters through the inlet and flows up through the primary filtration chamber, (Fig 2) it then flows down through the secondary filtration chamber (Fig 3).

Fluid then passes through an optional mesh screen which removes non-magnetic debris. The patented magnetic circuit design ensures that the filter can never block even in high contamination applications. The magnetic cores can be removed easily by hand and cleaned with the tool supplied. As an option a spare magnetic cartridge can be supplied to ensure production continuity.

- Spares cores available for quicker cleaning option.
- 0.5mm or 1.0mm holes in mesh strainer.

Technical Data



\* Higher temperature upgrade may be possible

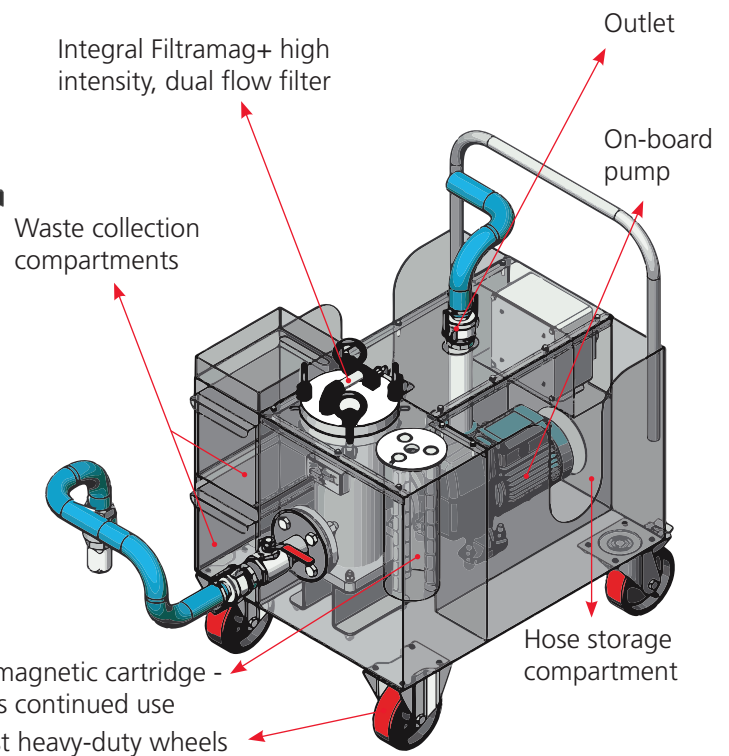
Product Number	Max. flow rate	Max. operating pressure	Connection	Temperature range*	Dimensions mm					Magnetic Strength
	litres/min	bar	PN16 flange	°C	A	B	C	D	E	gauss
FM1.5+	250	20	1½"	-5 – 80	395	255	100	180	80.5	4,000
FM2.0+	500	20	2"	-5 – 80	442	330	100	250	80.5	4,000
FM1.5+/11K	250	20	1½"	-5 – 80	395	255	100	180	80.5	11,000
FM2.0+/11K	500	20	2"	-5 – 80	442	330	100	250	80.5	11,000

# Filtramag+ Mobile

Patented Design



Portable filtration unit for cleaning machine tool fluids such as oils, lubricants and coolants.



A mobile filtration system for cleaning oils and coolants. This 'Plug & Play' unit offers efficient sub-micron filtration & can be moved easily from machine to machine.

## Benefits



Simple, "Quick-Connect" installation



High performance, sub-micron filtration.



Increase fluid life, cleaner fluids last longer.



Cost savings in disposable filter usage.



Reduces consumable filter costs e.g paper band filters and cartridges.



Improved surface finish and accuracy.





# Plug & Play Mobile Filtration

## Typical Applications

- ✓ Ferrous machining processes
- ✓ Tank draining
- ✓ Tank cleaning
- ✓ Overnight fluid cleaning
- ✓ Additional filtration
- ✓ Incoming fluid inspection
- ✓ Carbide applications

## Construction

**Magnet material:** Rare Earth Neodymium Iron Boron (NdFeB)

**Magnet grade:** N35 (standard), N45 (optional)

**Filter housing:** 304 grade stainless steel (powder coated)

**Unit body:** Mild steel (painted)

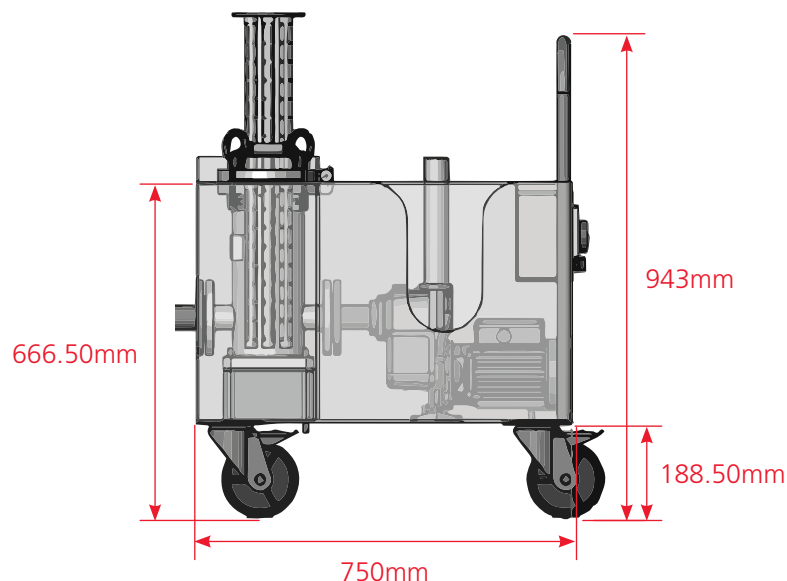
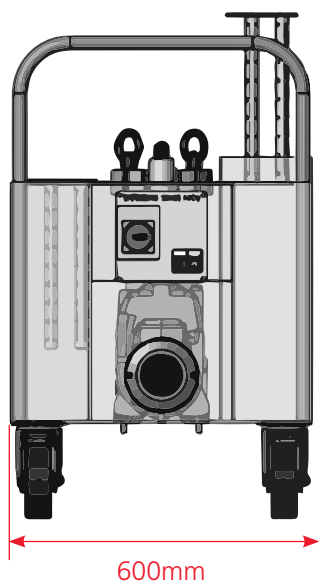
**Pump:** Self priming AM 40-110B, single phase, 230V, 50HZ

**Power:** 13 amp, 3 pin socket (other options available)

**Hoses:** 3m long inlet and outlet hoses included, made from oil resistant PVC material, supplied 600mm with Cam lock connections.



## Technical Data



## Performance

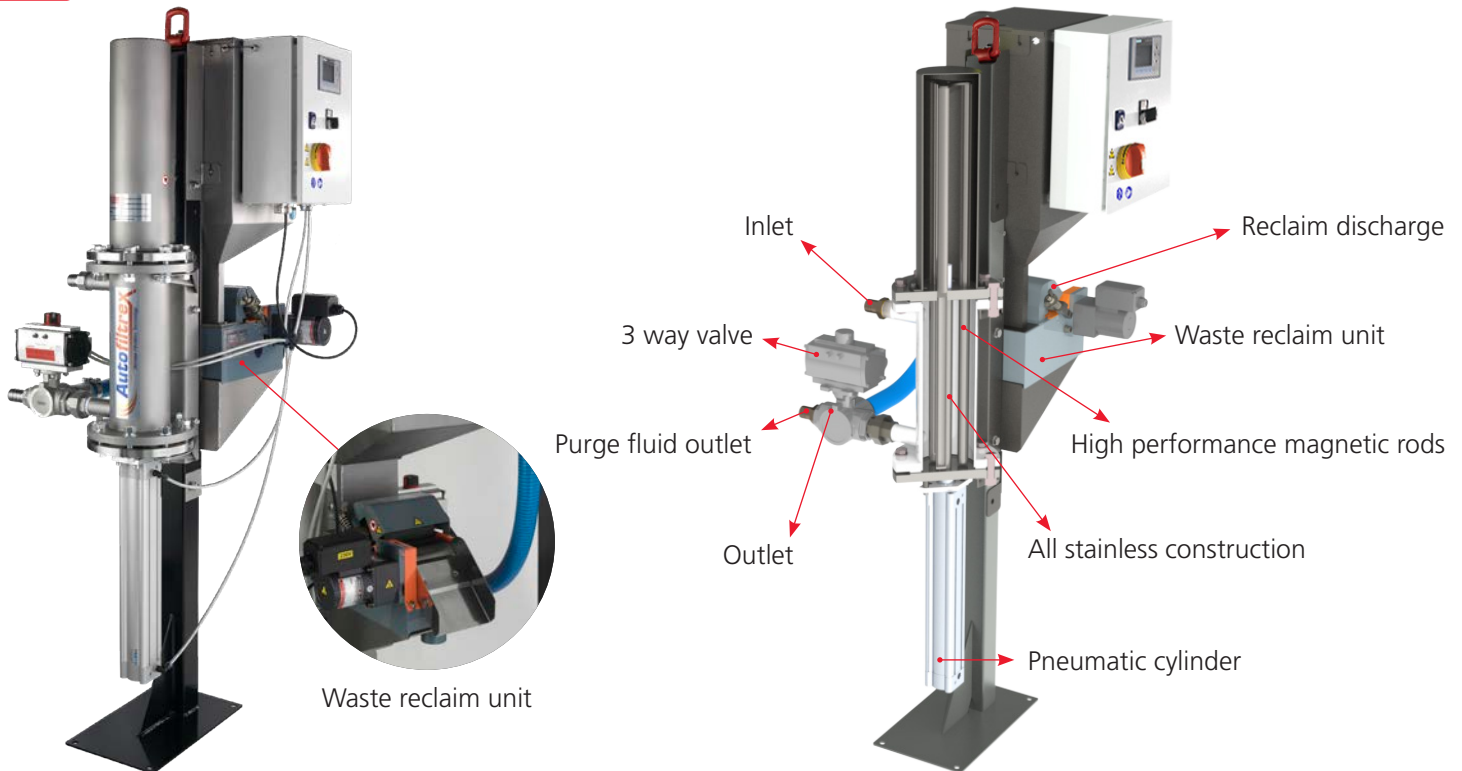
**Flow rate:** 250 litres per minute | **Magnetic performance:** 4,000 Gauss (standard), 11,000 Gauss (optional)  
**Contamination collection capacity:** 3kgs | **Operating temperature:** 5°C to 60°C | **Maximum suction height:** 12.9m

# Autofiltrex

Patented Design



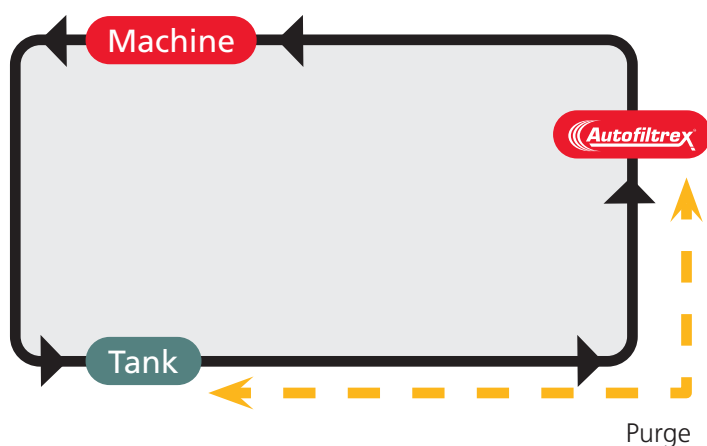
Automated machine tool filtration system with waste reclaim unit.



The latest generation in cost-effective fluid filtration. Fully automated operating & cleaning. Provides huge cost savings in fluids & filter consumables.

## Typical Applications

Autofiltrex is ideal for most ferrous machining applications such as grinding, honing, lapping, forming and quenching processes. It can be also utilised in wash station applications.



## Benefits

- Fully automated cleaning, ideal for 24/7 operation.
- Minimises waste disposal of consumables.
- Increase fluid life, cleaner fluids last longer.
- Reduced expenditure on media filters.
- Cleaner fluid delivery to CNC or metal machinery.
- Improved surface finish and accuracy.



## How Autofiltrex Works

AutoFiltrex works in-line and outline (with pump available), taking dirty fluid from the holding tank and delivering clean polished fluid to the tool / work piece contact point. As fluid flows through the AutoFiltrex cylinder, high intensity magnetic circuits extract ferrous contamination particles.

When the magnets reach saturation point, a timed automated purging process lifts the magnetic cores from the housing thereby releasing contamination. This is simultaneously diverted via a 3-way valve to the reclaim unit (or when using AF1 to a purge or holding tank). The unit can be set to purge at timed intervals or be manually executed.

The air pressure supply required is 6 bar minimum, 10 bar maximum.

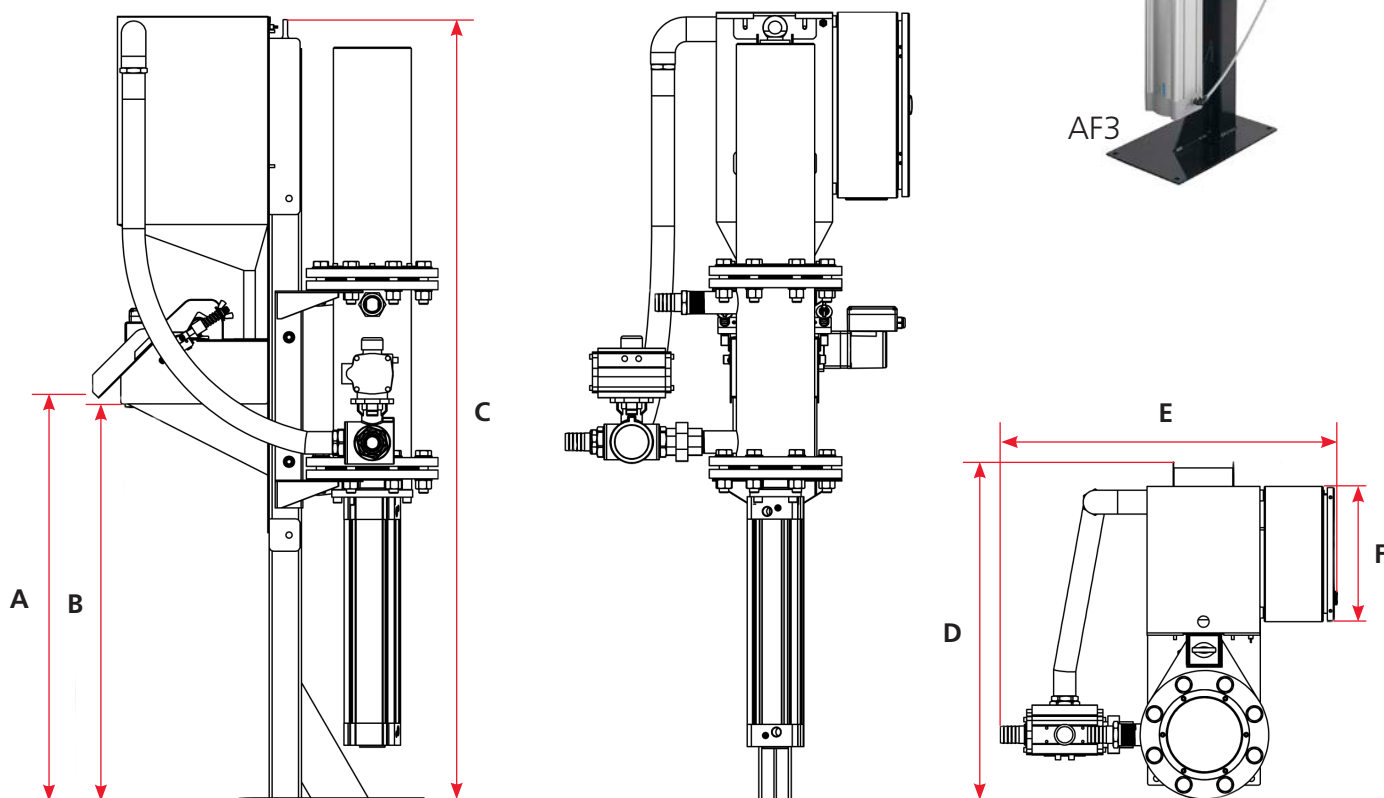
\* AF1 unit is not supplied with a reclaim unit.

For optimal cleaning, the flow rate should be higher than 1/3 of the maximum flow rate.

Pumps units are available for each model



## Technical Data



\* Higher temperature upgrade may be possible

Product Number	Flow rate	Max. operating pressure	Number of magnetic rods	Magnetic Strength	Connections Inlet	Temperature range*	Contamination Capacity	Weight	Dimensions mm					
	ltrs/min.	bar							A	B	C	D	E	F
AF1	60	10	1	9,000	19	-5 – 60	1	30	N/A	N/A	1504	250	N/A	210
AF3-RC	150	10	3	9,000	31	-5 – 60	3	122	872	852	1701	717	698	300
AF5-RC	200	10	5	9,000	38	-5 – 60	5	145	872	852	1701	747	747	300

# Automag Skid

Patented Design



Automated clean filter, flow rates up to 10,000 litres per min.

## Purge value

Automatically switched during the 'purge' process to send purged fluid and contamination to the purge tank.

## Automag magnetic filter

2-stage filter removes contamination down to sub-micron size. Automated cleaning process.

## Purge tank

Holds purged fluid and contamination before it is fed to the magnetic reclaim system.

## AM12 Skid

## AM6 Skid

Height adjustable legs

## Magnetic reclaim







Separates contamination from the 'purge fluid', feeds clean fluid back into the system. Contamination is removed as semi-dry cake which can then be recycled.

Self-contained, free standing magnetic filtration system. Providing uninterrupted 24/7 filtration. Can be used in-line or with optional integral pump, off-line.

## Why choose the AM12 over the AM6?

**AM12**  
**HAS DOUBLE**  
CONTAMINATION CAPACITY  
**& DOUBLE**  
FLOW RATE

## Benefits

-  Environmentally friendly filter, reduces waste.
-  Includes integral waste / fluid reclaim unit.
-  Reduces lubricants, oil, and coolant consumption.
-  Reduced expenditure on media filters.
-  Ideal for high-volume 24/7 machine tool.
-  Fully automated cleaning and fluid recovery system.



## How Automag Works

An AutoMag magnetic filter removes magnetic and para-magnetic contamination and holds it until it is released during the automated 'purge' process. Then, the filter's output is briefly diverted so that fluid carries the contamination to the purge tank.



### Double Automag Skid

Double AutoMag Skid units are available for large flow rate / heavy contamination applications.

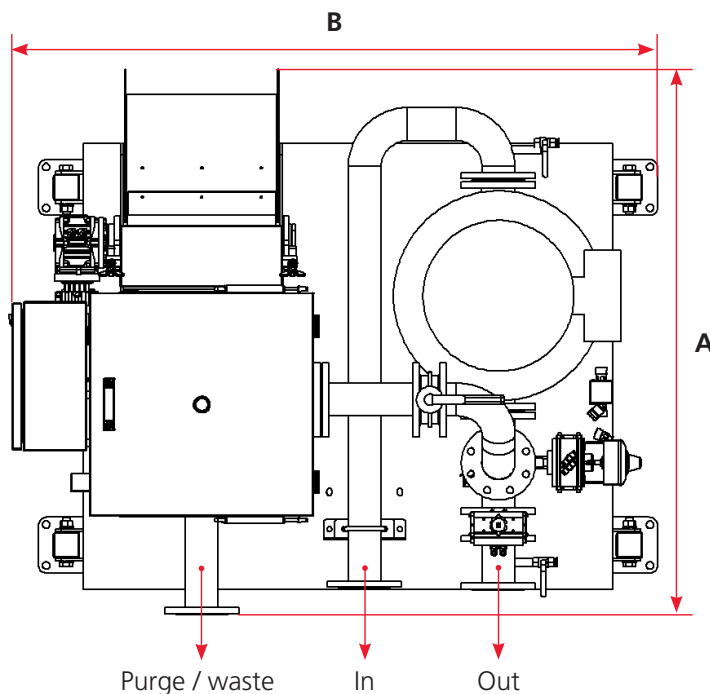
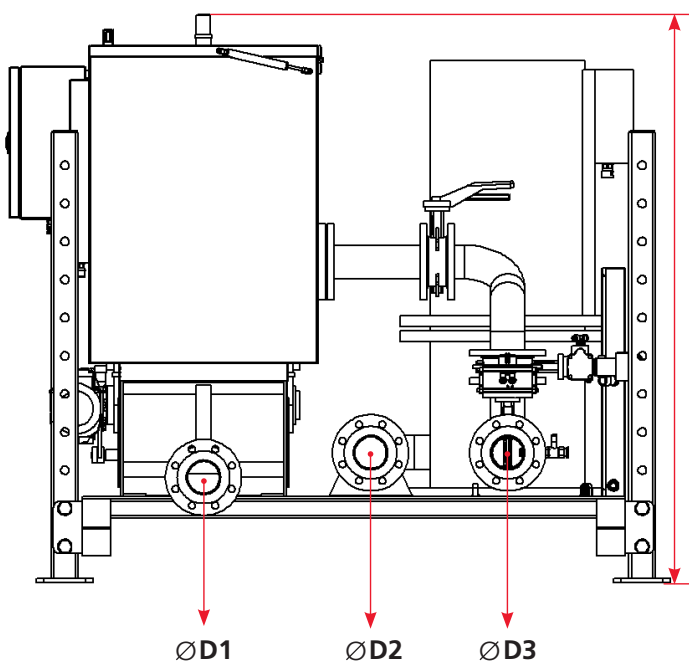
The purge tank then feeds the contaminated fluid to the magnetic reclaim which removes the contamination, putting clean fluid back into circulation. The contamination is extracted in a form ready for disposal or recycling. Units can be supplied with a single filter or double filters for duplex operation.



### Special Designs - AM32

AM32 is available for wash system applications up to 4,000 litres per minute flow rate (contact us for details).

## Technical Data



\* Higher temperature upgrade may be possible

Model	Number of cores	Maximum flow rate		Contamination capacity	Max. operating pressure	Temperature range*	Dimensions mm						
		Litres/min.	m <sup>3</sup> /hour				A	B	C	D1	D2	D3	Flanges
AM6 Skid Single	6	450	27	6	10	-5 – 60	1300	1540	1290/2190	75 (3")	50 (2")	50 (2")	PN16/ ANSI
AM6 Skid Double	12	900	54	12	10	-5 – 60	1300	2272	1290/2190	75 (3")	50 (2")	50 (2")	PN16/ ANSI
AM12 Skid Single	12	900	54	12	10	-5 – 60	1469	1743	1490/2390	75 (3")	75 (3")	75 (3")	PN16/ ANSI
AM12 Skid Double	24	1800	108	24	10	-5 – 60	1469	2475	1490/2390	75 (3")	75 (3")	75 (3")	PN16/ ANSI

# Installation Options

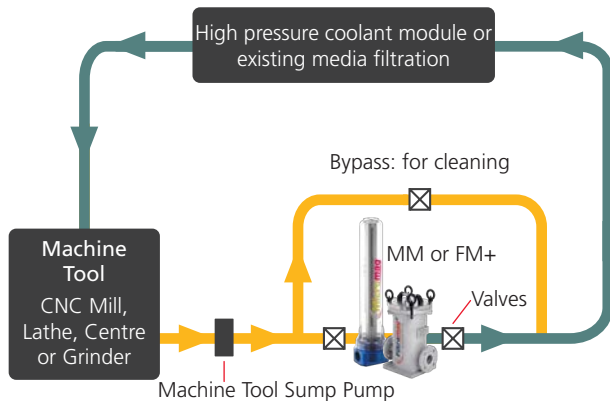
## Technical Data

Examples to decide what products are best for you.

### Pre-Filtration Installation - With Bypass

#### Protect:

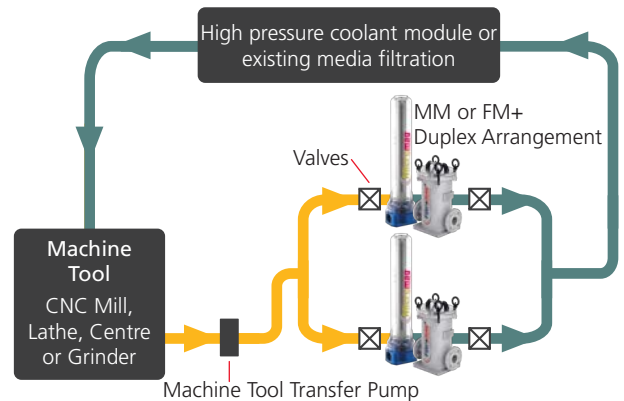
- High pressure pump
- Media filter (bags, cartridges, beds, etc)
- Machine tool: through spindle components, tooling, keep sump clean, reduce wearing of part (way covers), extend coolant/oil life with no loss of physical properties.



### Pre-Filtration Installation - Duplex

#### Advantages:

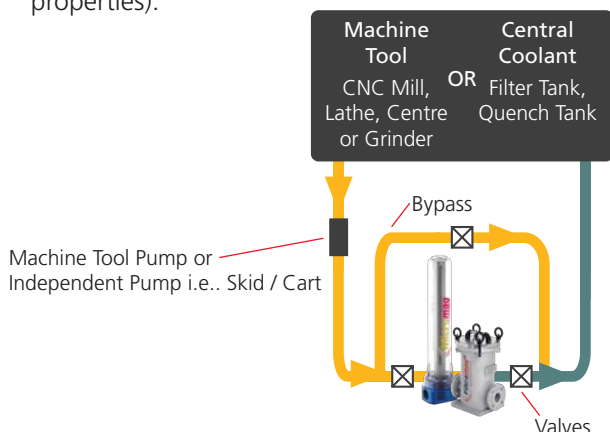
- Ease of cleaning
- Duplex magnetic filter
- Constant high efficiency filtration



### Kidney Loop Filtration 24/7 Uninterrupted Cleaning

#### Protect:

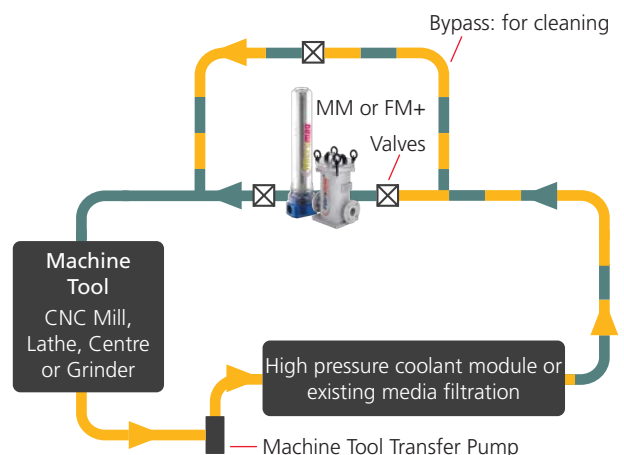
- Tooling
- Keep sump clean
- General system cleanliness
- Extend coolant life (with no loss of physical properties).



### Post filtration Installation - With Bypass Coolant Polishing

#### Protect:

- Machine tool: through spindle components, tooling, extend coolant/oil life with no loss of physical properties, keep sump clean, and reduce wearing of parts (linear bearings).





# Application Data Selector

Technical Data

Percentage reduction required from stated maximum flow rate to obtain good filtration results.

Part No.	Flow rates (ltrs/ min.)	Fluid Type				Material Type						Material Loading			
		Coolant/ Wash solution	Thin oil	Medium oil	Thick oil	Mild steel	Hard steel	Cast iron	Stainless steel	High speed steel	Tungsten carbide	Heavy	Medium	Light	Wear
Manual															
Micromag															
MM5	70	0	20	n/a	n/a	0	n/a	20	n/a	n/a	n/a	n/a	n/a	n/a	✓
MM10	100	0	20	n/a	n/a	0	30	20	n/a	n/a	n/a	n/a	n/a	✓	✓
MM20	150	0	20	30	60	0	30	20	70	n/a	n/a	n/a	✓	✓	✓
Filtramag <sup>+</sup>															
FM1.5 <sup>+</sup>	250	0	10	20	40	0	20	20	50	60	70	n/a	✓	✓	✓
FM2.0 <sup>+</sup>	500	0	10	20	40	0	20	20	50	60	70	✓	✓	✓	✓
Automated															
AutoFiltrex															
AF1	60	0	10	20	40	0	20	20	50	60	70	n/a	✓	✓	✓
AF3-RC	150	0	10	20	40	0	20	20	50	60	70	✓	✓	✓	✓
AF5-RC	200	0	10	20	40	0	20	20	50	60	70	✓	✓	✓	✓
Automag Skid															
AM6S1	450	0	10	20	30	0	20	20	40	50	60	✓	✓	✓	✓
AM12S1	900	0	10	20	30	0	20	20	40	50	60	✓	✓	✓	✓
AM6S2	900	0	10	20	30	0	20	20	40	50	60	✓	✓	✓	✓
AM12S2	1800	0	10	20	30	0	20	20	40	50	60	✓	✓	✓	✓
AM32S1	2000	0	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	✓	✓

## Example:

Filter FM2.0+  
Flow 500 ltrs/min.  
Material Cast iron  
Fluid Medium oil

500 ltrs/min × Medium oil (20%) = 400 ltrs/min.  
400 ltrs/min × Cast iron (20%) = 320 ltrs/min.  
Suggested flow rate = 320 ltrs/min.

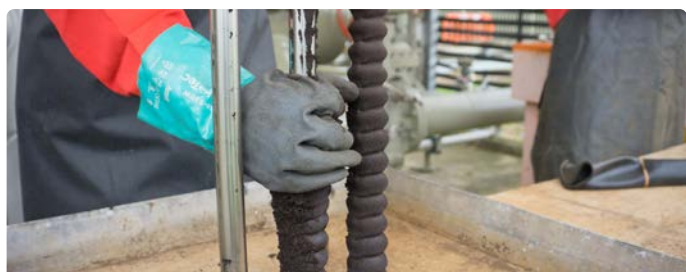
## Centipoise

Thin oil 20 – 300  
Medium oil 300 – 700  
Thick oil 700+

# Other Filtration Products

Comprehensive range of Magnetic Filtration options

Choose from our comprehensive range of Magnetic Filtration options.



## Ultrafiltrex - Protecting Oil & Gas Pipelines

Ultrafiltrex uses the latest magnetic technology to solve problems created by pipeline rust or black powder, which forms when iron in the pipeline wall reacts with other compounds to form corrosion. It offers time, money and environmental savings in comparison to traditional membrane or barrier filters such as cyclones, cones, baskets and cartridges.



## BoilerMag - Heating System Protection

The BoilerMag range of filters removes black iron oxide from heating and cooling systems, improving efficiency, reducing CO2 emission and protecting boilers from the damage that black iron oxide can cause.

### Benefits

- ✓ Easy installation and maintenance.
- ↗ Maintains peak performance of system.
- ♥ Extends system life.
- 💰 No running costs, minimal maintenance costs.
- 🕒 10 year warranty.

Ultrafiltrex can deliver significant performance gains in oil and gas applications and offers many advantages over conventional cartridge systems.

Justin Walker, Technical Services Director,  
Air BP





# Magnetic Innovations At Our Core

📍 Anak Krakatau, Indonesia



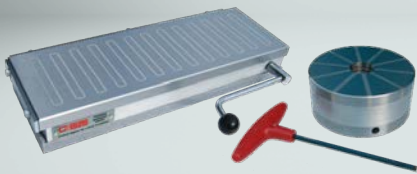


# Our Products

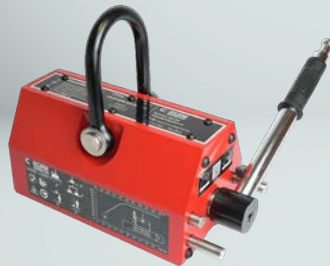
We manufacture high quality magnets

In addition to our filtration range, Eclipse Magnetics manufacture a wide range of high performance magnetic products for diverse applications.

## Workholding Systems



## Lifting & Handling Systems



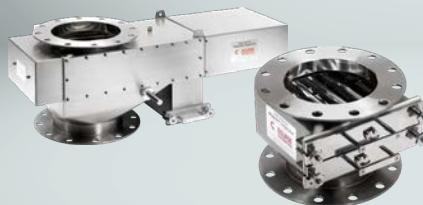
## Magnetic Workshop Applications



## Magnetic Materials & Assemblies



## Foreign Body Removal & Separation Systems



## Heating System Filters



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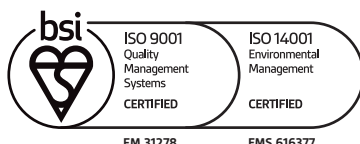
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**ECLIPSE**  
**MAGNETICS**

While every effort has been made to ensure the accuracy of the information in this publication please note that specifications may change without notice.