EN

RBM

DIRT IN HEATING SYSTEMS
THE RBM SOLUTION

YOU CAN'T SEE IT, **BUT IT'S THERE!**

DIRT

THE REASONS FOR THE PRESENCE OF DIRT IN SYSTEMS

OXIDATION OF THE METAL SURFACES

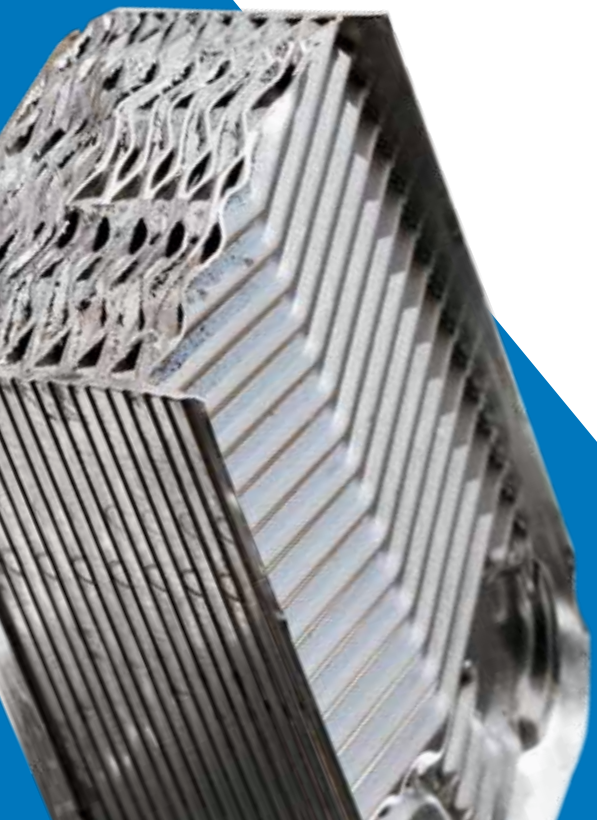
Chemical phenomena due to the action of oxygen in the air.

DIRT CAUSED BY PROCESSING AND BY THE SYSTEM COMPONENTS

It is, in particular, material residual and lubricants (hemp, teflon, oils) used during installation and impurities released from the materials making up the system components (metal residues, casting sand, paint chips).

The rust flakes that detach from the walls of the pipes cause noise and block circulation

DIRT: HOW DOES IT HAPPEN?



The dirt appears in water systems in the form of:

VISIBLE DIRT

NON VISIBLE DIRT
consisting of micro particles with dimensions to 0.005 mm.

Both can be the cause of significant damage!

The plate exchangers are the first system components to be damaged in the presence of dirt.

The section of a plate exchanger replaced only after one month of operation: the system was not installed with a magnetic dirt separator and the high concentration of magnetite (iron powder) is clear.

Continuous corrosion leads to evident changes in the geometry of the pipes, causing failures.

*WHAT DAMAGE CAN **DIRT** DO?*
NOISE, MALFUNCTION, CORROSION AND RUPTURE

The magnetic fields generated by the circulators attract metal debris which could compromise the operation of the device.

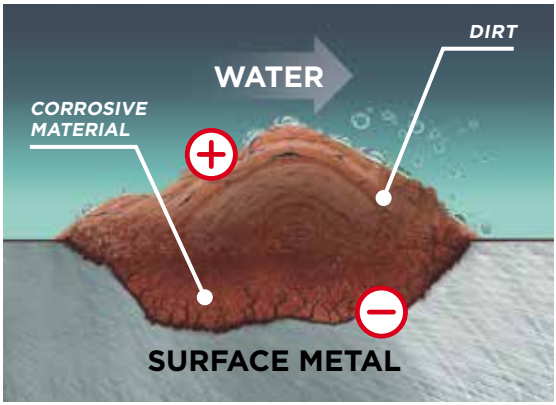
In more severe cases of corrosion, metal components and pipes can break.

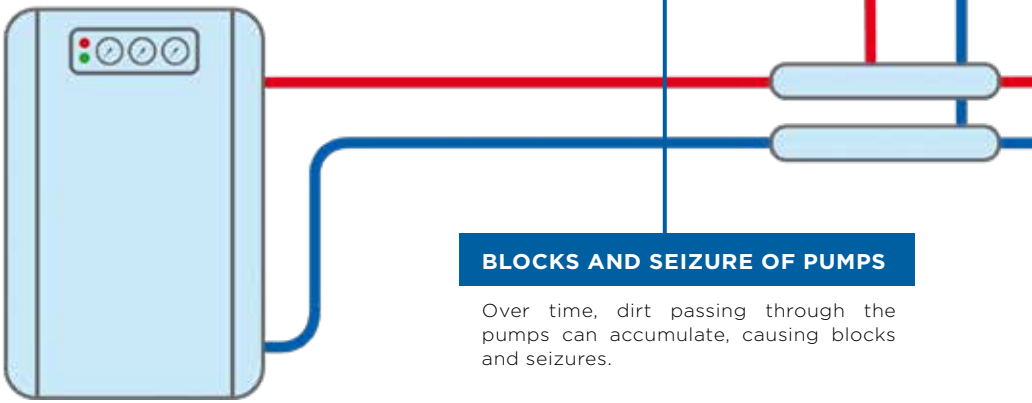
The effect of oxidation on a copper exchanger.

DAMAGE CAUSED BY THE PRESENCE OF **DIRT** IN SYSTEMS

CORROSION BY DIFFERENTIAL AERATION

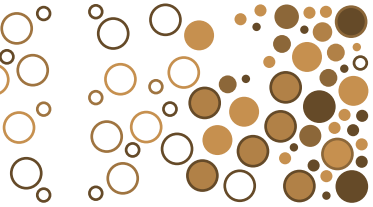
When a layer of dirt deposits on a metal surface, two areas are formed (water/dirt and dirt/metal) having opposing electric charges. For this reason current flows are activated (battery effect) that lead to the corrosion of metal surfaces, causing the weakening (sometimes even the rupture) of the system components.

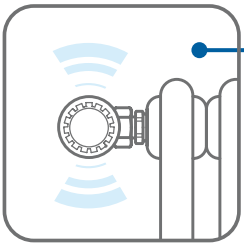




BLOCKS AND SEIZURE OF PUMPS

Over time, dirt passing through the pumps can accumulate, causing blocks and seizures.



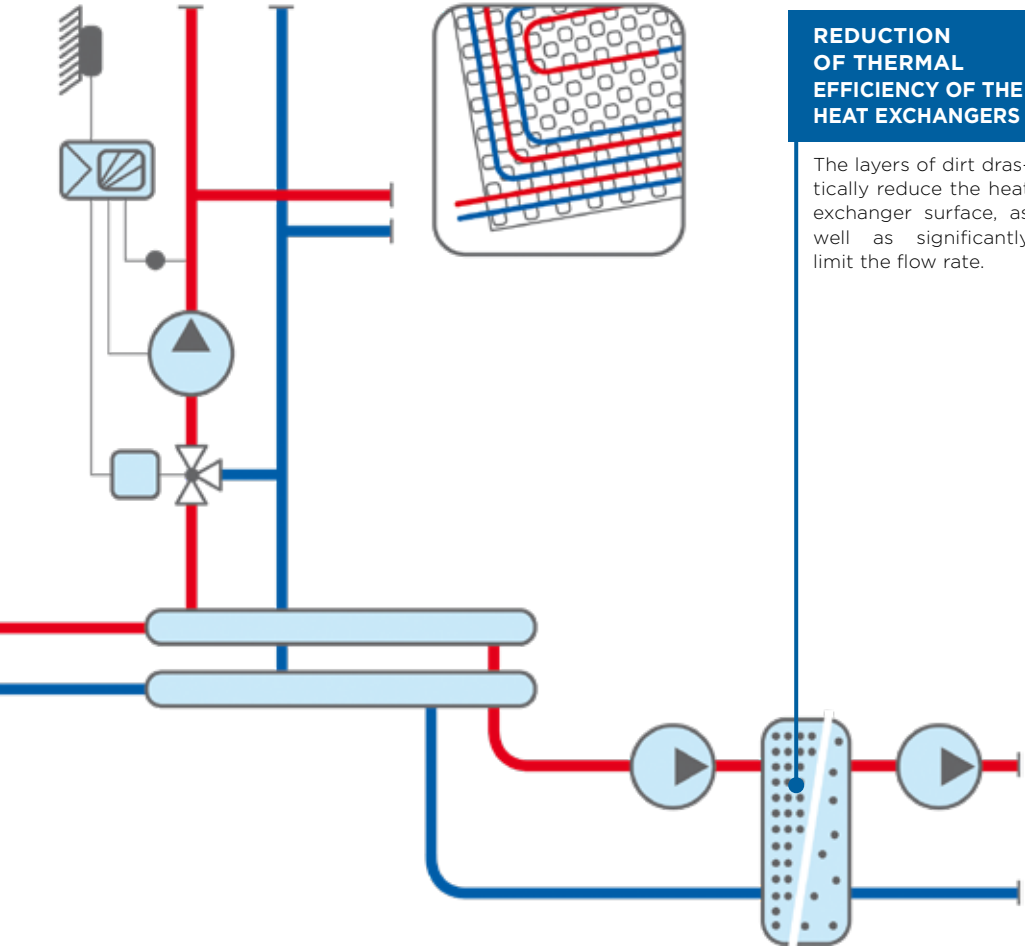


IRREGULAR VALVE OPERATION

The dirt adhering to the valve seats causes leaks and imbalances in the systems.

REDUCTION OF THERMAL EFFICIENCY OF THE HEAT EXCHANGERS

The layers of dirt drastically reduce the heat exchanger surface, as well as significantly limit the flow rate.



MG1

Magnetic under-boiler sludge remover filter. Supplied complete with swivel filter/ boiler connection fitting and ball valve.

Plastic polymer cartridge holder body.
Stainless steel AISI 304 filtering cartridge.
Elastomer hydraulic seals.
Threaded connections MF UNI-EN-ISO 228

- Max operating pressure 3 Bar
- Operating temperature 0 ÷ +90 °C
- Neodymium magnet B = 11000 gauss
- B(T max) / B(T amb)* < 1%
- * T max = 130 °C - T amb = 21 °C
  Filtering grade 800 µm

Code	Size	Kvs (m³/h)
3070.05.00	3/4	5,49
3070.05.50	3/4	5,49

Code	Size	Kvs (m³/h)
3701.05.00	3/4	5,49
3701.05.10	3/4	5,49
3701.05.50	3/4	5,49
3701.05.60	3/4	5,49

Code	Size	Kvs (m³/h)
3701.05.80	3/4	5,49
3701.05.90	3/4	5,49

3070.05.50

3701.05.50

3701.05.80

In attesa di foto

SAFECLEANER2

Multipurpose polymer magnetic sludge separator, metal diverter valve, with FF ball valve connection.

Cartridge body in plastic polymer.
Diverter valve: Nickel-plated brass/ plastic polymer.
Stainless steel AISI 304 filtering cartridge.
EPDM hydraulic seals.
Threaded connections FF UNI-EN-ISO 228.

- Max pressure 3 bar
- Operating temperature 0÷90°C
- Neodymium magnet B = 11000 gauss
- B(T max) / B(T amb)* < 1%
  * T max = 130°C - T amb = 21°C

MULTIFUNCTION POLYMER MAGNETIC DIRT SEPARATOR, DIVERTER IN BRASS, FF CONNECTION

Code	Size	Kvs (m³/h)
2405.05.00	3/4"	6,81
2405.06.00	1"	7,51

MULTIFUNCTION POLYMER MAGNETIC DIRT SEPARATOR, WITH FF BALL VALVES CONNECTION

Code	Size	Kvs (m³/h)
2319.05.50	3/4"	6,81
2319.06.50	1"	7,51
2319.07.50	1" 1/4	7,51

MULTIFUNCTION POLYMER MAGNETIC DIRT SEPARATOR, DIVERTER IN BRASS, WITH FF BALL VALVES CONNECTION

Code	Size	Kvs (m³/h)
2344.05.50	3/4"	6,81
2344.06.50	1"	7,51
2344.07.50	1" 1/4	7,51

2405

2319

2344

- Eliminates all impurities
- Excellent hydraulic features
- Can be mounted on vertical, horizontal and diagonal piping
- Extends boiler lifespan
- Fights corrosion
- Ensures system efficiency
- Compact

MAG-NUS2

Self-cleaning magnetic sludge remover filter for hydraulic systems. Provided with drain ball cock with hose end connector.

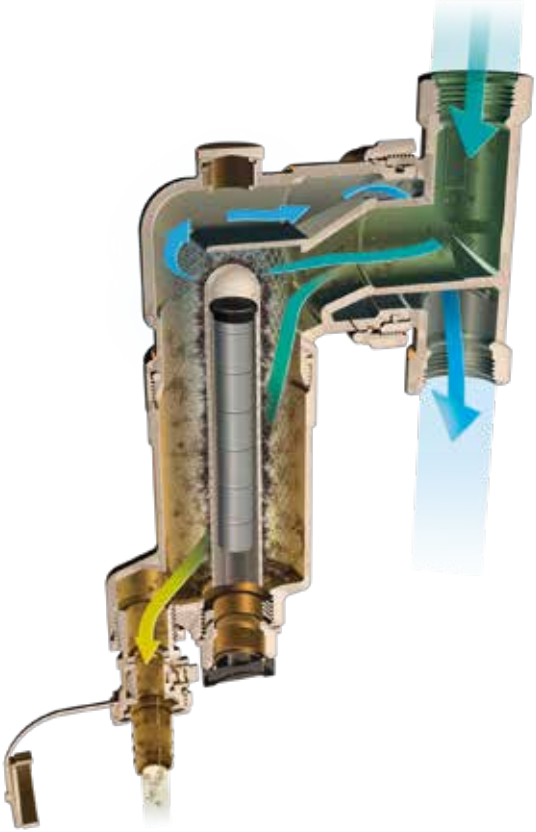
Brass body.
Stainless steel AISI 304 filtering cartridge.
Elastomer hydraulic seals.
Threaded connections FF UNI-EN-ISO 228.

- Max operating pressure 10 Bar
- Operating temperature 0 ÷ +100 °C
- Max operating temperature 130 °C
- Neodymium magnet B = 11000 gauss
- B(T max) / B(T amb)* < 1%
  * T max = 130 °C - T amb = 21 °C

Code	Size	Kvs (m³/h)
3548.05.00	3/4	9,5
3548.06.00	3/4	10,30

Possibility of mounting series 2343 accessory connector for system washing.

3548



MP1

Self-cleaning magnetic dirt separator for heating pump. Complete with integrated shut-off device and discharge ball cock.

Body in plastic polymer.
AISI 304 stainless steel reinforced filtering cartridge.
Elastomer hydraulic seals.
Union threaded connections MM UNI-EN-ISO 228.

- Max operating pressure 6 Bar
- Operating temperature 0 ÷ +90 °C
- Neodymium magnet B = 11000 gauss
- Filtering grade 800 µm

Code	Size
3699.06.00	1”

3699

DIRTERM MAG

Self-cleaning dirt separator. Provided with drain ball valve with hose end connector.

Brass body.
Inox AISI 304 2 Layers steel filtering cartridge.
Elastomer hydraulic seals.
FF UNI-EN-ISO 228 threaded fittings.

- Max operating pressure 10 Bar
- Operating temperature 0 ÷ +110 °C
- Neodymium magnet B = 11000 gauss

Code	Size	Kvs (m³/h)
3173.04.00	1/2"	7,4
3173.05.00	3/4"	12,66
3173.06.00	1"	20,44
3173.07.00	1"1/4	28,14
3173.08.00	1"1/2	44,45
3173.09.00	2"	65,58

3173

AIRTERM MAG

Self-cleaning dirt separator / deaerator.
Provided with drain ball valve
with hose end connector.

IDEAL FOR INSTALLATION ON RETURN PIPING

Code	Size	Kvs (m³/h)
2863.04.00	1/2"	7,4
2863.05.00	3/4"	12,66
2863.06.00	1"	20,44
2863.07.00	1"1/4	28,14

Brass body.
Lever floating device in PP.
INOX AISI 304 2 Layers
steel filtering cartridge.
EPDM hydraulic seals.
FF UNI-EN-ISO 228 threaded fittings.

- Max operating pressure 10 bar
- Max operating discharge pressure 10 bar
- Operating temperature 0÷110°C
- Neodymium magnet B = 11000 gauss

MAXIMUM DISCHARGE PRESSURE 10 bar

Magnetic dirt separator
+ Embedded deaerator

2863

Combined action
NEODYMIUM MAGNET
+ FILTERING CARTRIDGE
with 2 LAYER technology

MG COMPACT

Compact self-cleaning magnetic dirt separator filter for water. With drain ball valve. Suitable for boiler room.

Main body in painted steel on the outside
Steel cover
Elastomer seals
AISI stainless steel filter cartridge

- Max operating pressure 10 Bar
- Max operating temperature 95 °C
- Neodymium magnet
- Filtering grade 100 µm

IDEAL FOR INSTALLATION IN BOILER ROOMS

Code	Size	Kvs (m³/h)
3602.04.00	1/2"	5,5
3602.05.00	3/4"	9,87
3602.06.00	1"	16,59
3602.07.00	1"1/4	31,10
3602.08.00	1"1/2	50,60
3602.09.00	2"	81,00

MG PLUS

Self-cleaning magnetic dirt separator filter for water. With drain ball valve. Suitable for boiler room.

Main body and flanges in painted steel
on the outside
Steel cover
Elastomer seals
AISI stainless steel filter basket
Pair of pressure gauges, 0÷10 bar scale
PN16 flanged couplings

- Max operating pressure 10 Bar
- Max operating temperature 95 °C
- Neodymium magnets
- Filtering grade 100 µm

IDEAL FOR INSTALLATION IN BOILER ROOMS

Code	Size	Kvs (m³/h)
3541.09.10	DN50	14* - 23**
3541.10.10	DN65	35* - 46**
3541.11.10	DN80	42* - 57**
3541.13.10	DN100	55* - 73**
3541.14.10	DN125	100* - 131**
3541.15.10	DN150	141* - 173**

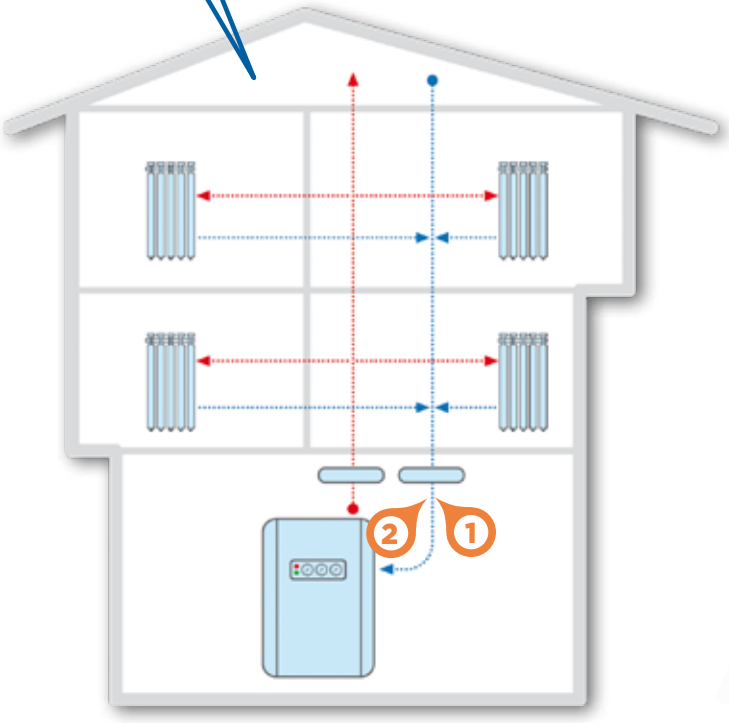
Flange suitable for coupling with counter-flange UNI EN 1092-1.

* Flow rate with 20 kPa pressure drop
** Flow rate with 30 kPa pressure drop

3541

EACH COMPONENT IN ITS PLACE, **EACH PLACE HAS ITS COMPONENT**

DOMESTIC-RESIDENTIAL UTILITY



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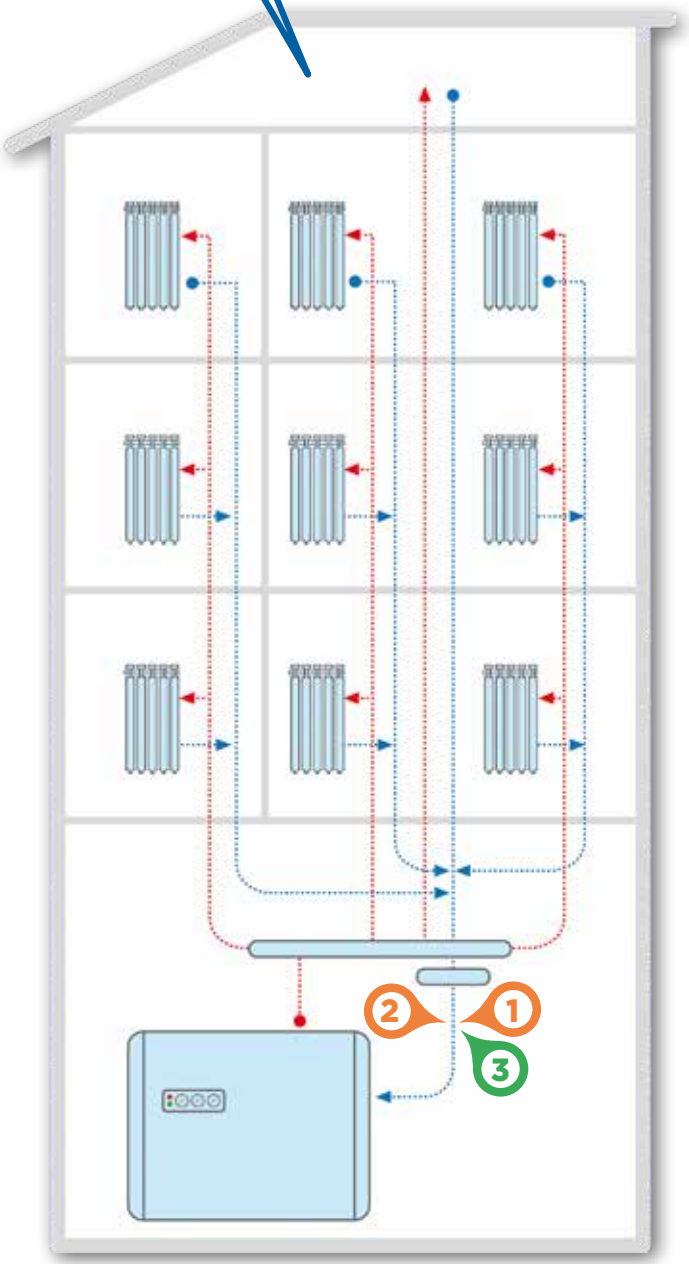
Installation on RETURN PIPING

Installation in BOILER ROOMS

APARTMENT COMPLEX

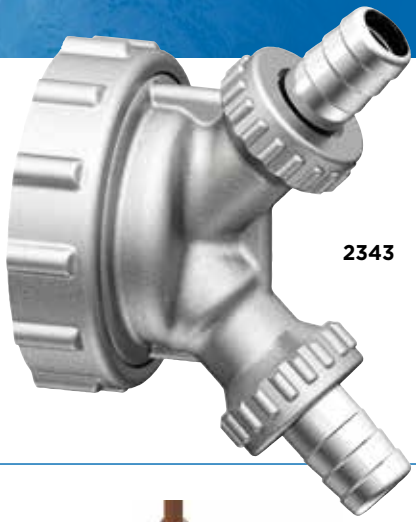


CONNECTOR TO WASH THE SYSTEMS

RBM provide a connection tool easy to use and makes it easier and quicker to wash a heating system (as required by law).

The RBM connector to wash systems is compatible with all components fitted with an adjustable diverter: SafeCleaner2 (2405 - 2344 - 2319 series) and Mag-Nus2 (3548 series) dirt separator filters and Airterm UP (2649 series) deaerators.

Thanks to the RBM connector, there is no need to take down the circulator or look for other points to access the system: simply unscrew the filter or deaerator body, screw the connector to the previously installed diverter and carry out flushing operations.



2343

OPERATING INSTRUCTIONS:*

1

Shut off the device by closing the ball valves and remove the main body of the filter from the diverter.

2

Screw the connector onto the diverter body.

3

Connect the inlet and drain pipes to the two outlet connectors of the connector itself, open the ball valves and carry out the flushing.

4

After washing the system, shut it off, remove the connector and place the main body of the device back on the diverter.

** For further information, please see the product data sheet available at www.rbm.eu.*

- Strong: made entirely of brass
- Quick and easy to install
- With outlet connectors
- Universal: compatible with the whole range of SafeCleaner2 and Mag-Nus2 filters, and Airterm UP deaerators.

MG1®

COMPACT MAGNETIC SYSTEM FILTER

RBM Brass

PATENT
N°202015000064159

THE ONLY ONE THAT IS REALLY COMPACT, IT CAN BE INSTALLED ALSO IN LIMITED SPACES

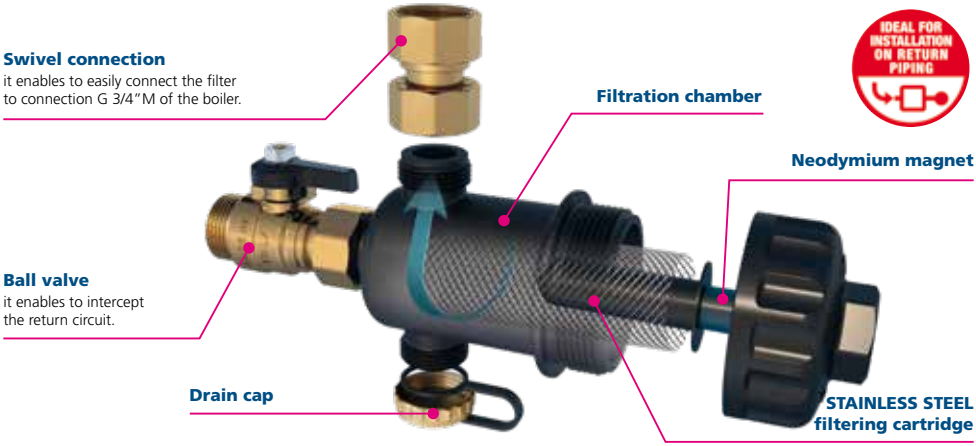
MG1 by RBM represents the best solution to solve plant problems due to particle pollution, especially rust and sand that are formed due to corrosion and scale during the normal operation of a system. Thanks to its compact dimensions, it is perfect when the boiler to be protected is installed in a kitchen cabinet or where installation spaces are very limited and there is no room for other dirt separators. Through its effective and constant action, the magnetic filter collects all the impurities present in the system, preventing them from circulating within it, thus avoiding wear and damage of the circulator and the heat exchanger.

- Super compact
- Retains all impurities
- Fights corrosion
- Increases the lifespan of the boiler
- Maintains optimum system efficiency

By going through a set course, the fluid is forced to cross the many areas that modify its motion and filter its content:

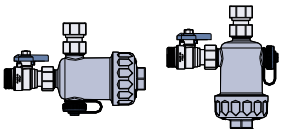
1. The sudden cross-section variation slows down the fluid and the particles suspended in it
2. The magnet inside the cylinder attracts all the ferrous impurities
3. Non-magnetic particles are retained by the mesh of the filtering cartridge

Continuous protection of the boiler



MAXIMUM INSTALLATION VERSATILITY:

It is advised to install MG1 on the return circuit, at the inlet of the boiler, in order to protect it from any impurities in the system, especially during the start-up phase. Thanks to its extreme installation versatility, MG1 can be mounted either with the cartridge/filter body facing the front and downwards.



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