



# FULL RANGE

of products for the protection  
of boilers and water heating loops

## SLUDGE FILTERS

FDM-1P / FDM-2 / FDM-3

## ACID CONDENSATE NEUTRALISERS

NEUTRAL COND / NEUTRAL MINI

# FDM

## SLUDGE FILTERS

The FDM sludge filters by Atlas Filtri are the ideal solution to resolve system issues due to particle contamination (especially rust and sand) that form through corrosion and build-ups during normal thermal system operation.

The magnetic filters ensure continuous boiler protection, trapping all the impurities that are in the system, keeping them from circulating thereby preventing the system components from being worn and damaged (for example, circulators and heat exchangers).

FDM filters remove metallic and non-metallic particles that can damage the closed circuit (loop), especially during the initial working period; later, the constant flow of liquid through the filter during normal operation gradually removes all the particles.

FDM filters must be installed on the return circuit feeding into the boiler after the last radiator; thanks to the compact dimensions, it can easily be installed under the boiler in systems for domestic use. FDM filters are intended exclusively for domestic heating systems; in the event of other applications, always consult the manufacturer before installation.

With their compact dimensions, FDM filters offer great versatility in installation and ensure long system life and maximum efficiency eliminating impurities and preventing corrosion.

Though exerting an efficient filtering action, the stainless steel cartridge was designed not to create excessive resistance to the flow of liquid.

### OPERATION

In the FDM filter, the liquid that flows through the cartridge filtering element comes into contact with the magnet; the ferrous sludge is trapped thanks to the double effect of mechanical filtration (exerted by the cartridge) and magnetic field (exerted by the magnetic).

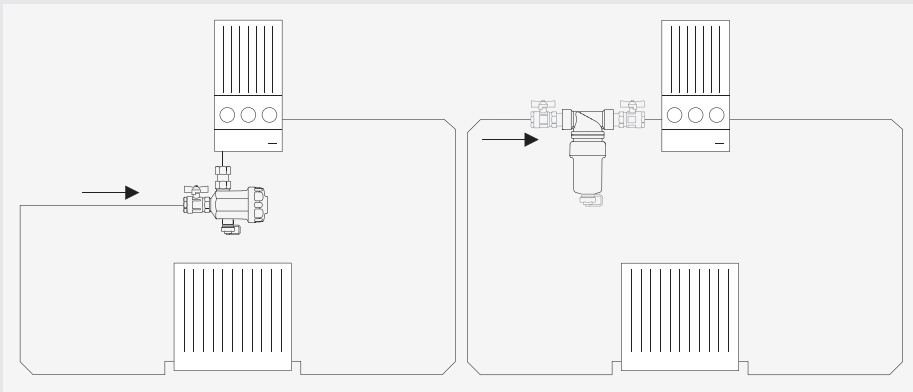
The effect is further amplified by varying cross-sections: the filter body has a greater diameter than the piping so the liquid slows inside the filter and the suspended particles can be more efficiently captured and trapped.

In this way, all the magnetic (ferrous residue) and non-magnetic (algae, mud, sand, etc.) contaminants in the system are trapped in the filter body.

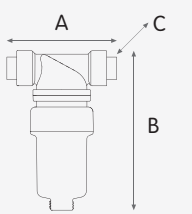
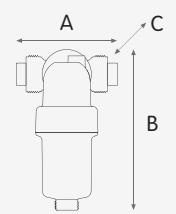
### FDM ARE AVAILABLE IN THREE MODELS

FDM must be installed on the return circuit feeding into the boiler after the last radiator to protect it from all the impurities in the system; thanks to the compact dimensions, FDM filters can easily be installed under the boiler in domestic systems.

### INSTALLATION DIAGRAM



### CLEARANCES

						
	FDM-1P	FDM-2/A	FDM-2/B	FDM-2/C	FDM-3	
<b>A</b> Width	180 mm	135 mm	135 mm	135 mm	135 mm	
<b>B</b> Height	80 mm	180 mm	180 mm	180 mm	188 mm	
<b>C</b> Depth	70 mm	70 mm	70 mm	70 mm	145 mm	

## NEODYMIUM MAGNETS

### WARNINGS FOR APPROPRIATE USE

The Neodymium magnets used in the FDM equipment are contained inside a brass cylinder, conveniently sealed to prevent the magnets themselves from coming out.

The magnetic cylinder assembly can, however, be a potential source of danger and the warnings below must be respected.

#### WARNING: Electrical conductivity

Magnets are made of metal and conduct electricity.

#### WARNING: Pacemakers

Magnets can influence the regular functioning of pacemakers and implanted defibrillators. If you have either of these devices, keep a safety distance of at least 30 cm from the magnets. Warn people who have these devices to stay away from the magnets.

#### WARNING: Magnetic field

Magnets generate an extended, powerful magnetic field. They can damage televisions and laptop computers, credit or debit cards, digital storage devices, mechanical clocks, hearing aids, speakers and other devices. Keep the magnets away from all devices and objects that could be damaged by intense magnetic fields.

#### WARNING: Airplane transport

Magnetic fields generated by inappropriately packaged magnets can influence airplane navigation devices. Only ship the magnets by air in packaging equipped with sufficient magnetic shielding.

#### WARNING: Postal shipping

Magnetic fields generated by inappropriately packaged magnets can interfere with automatic sorting systems and damage goods in other packages. Use an ample sized box and arrange the magnets in the middle of the package, surrounding them with packaging material. If necessary, use sheet metal to shield the magnetic field.

#### WARNING: Effect on people

According to current knowledge, the magnetic fields of permanent magnets have no measurable positive or negative effects on people. It is unlikely for the magnetic field of a permanent magnet to constitute harm to health but this risk cannot be entirely excluded. For safety, avoid prolonged contact with the magnets.

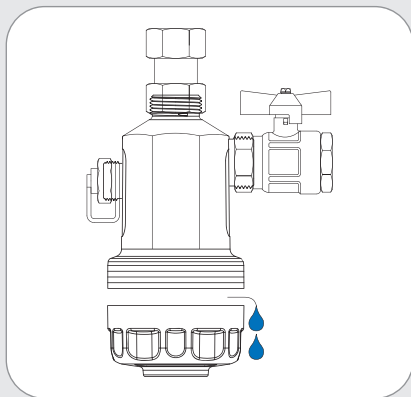
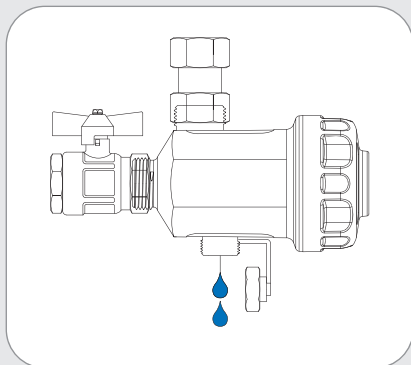
#### WARNING: Heat resistance

Neodymium magnets have a maximum operating temperature of 80°C. Most neodymium magnets permanently lose a part of their force of attraction at a temperature over 80°C. Do not use the magnets for applications other than the ones intended.

# Sludge Filter

## FDM-1P

### INSTALLATION DIRECTIONS

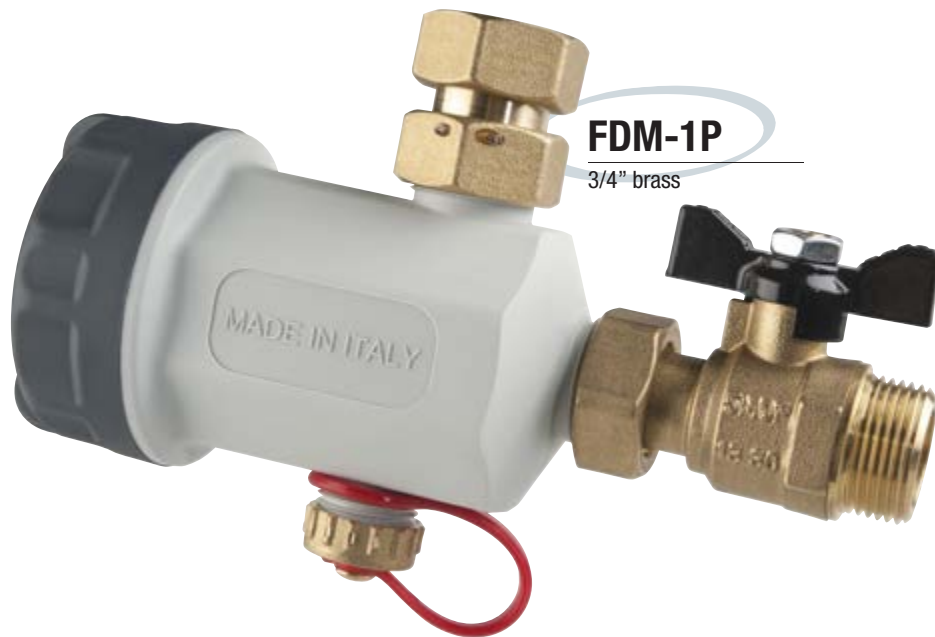


### WORKING CONDITIONS

Compatible liquids \_\_\_\_\_ water, water + glycol  
Max. operating pressure \_\_\_\_\_ 3 bar at 90°C  
Operating temperature \_\_\_\_\_ 4÷90°C  
Filtrate \_\_\_\_\_ 600 µm

### SPECIFICATIONS

Plastic 3/4" connections: Reinforced PA66 polyamide.  
Body: Reinforced PA66 polyamide.  
Cap: Reinforced PA66 polyamide.  
Filtering cartridge: AISI 304 L stainless steel.  
Ball valve: CW 617 N brass.  
Swivel joint: CW 617 N brass.  
O-rings: EPDM.  
Discharge cap: CW 614 N brass - 1/2".  
Magnet: NdFeB - 4500 Gauss - CW 617 N brass magnet container.  
Magnet holder: Polypropylene.



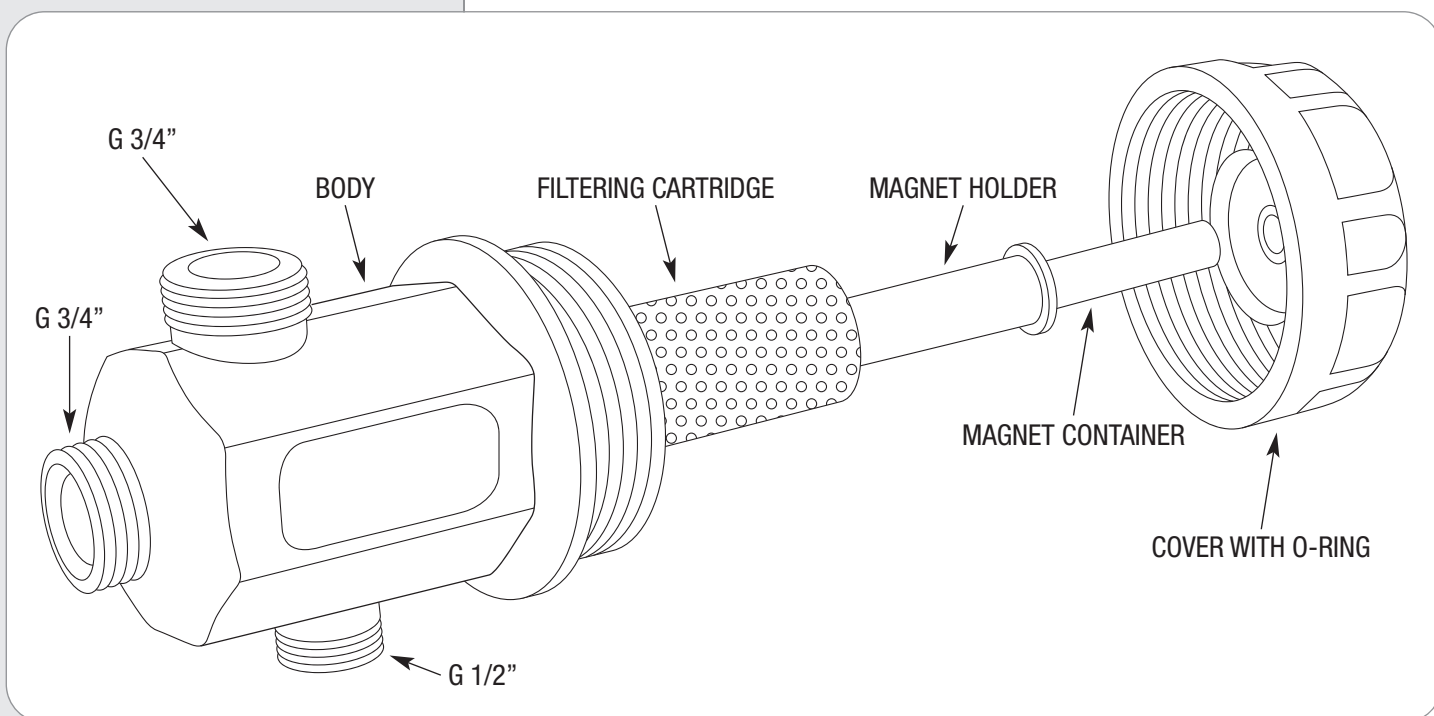
**FDM-1P** can be installed with different orientations: in the event of limited spaces under the boiler (i.e.: boiler installed in kitchen cabinets) **FDM-1P** must be installed with the main body horizontal and the cap facing forward.

Should there be more available space for installation, it is possible to position the **FDM-1P** with the body upright and the cap facing downwards.

In order to allow for these installation configurations, simply invert the position of the boiler connection swivel joint with the ball valve and rotate the filter by 90°.

The connections on the main body are made with G 3/4" threading, the drain with G 1/2" threading.

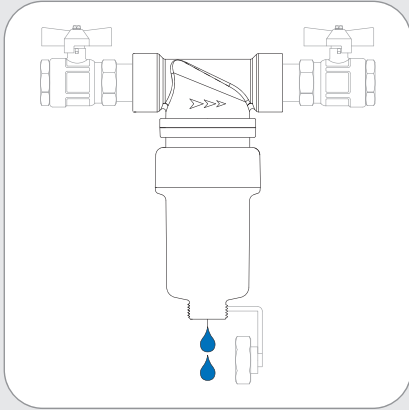
**FDM-1P** is supplied complete with ball valve and brass swivel joint.



# Sludge Filter

## FDM-2

### INSTALLATION DIRECTIONS



FDM-2 must be always installed in the upright position. It is recommended the installation of shut-off valves before and after FDM-2.

### WORKING CONDITIONS

Compatible liquids \_\_\_\_\_ water, water + glycol  
Max. operating pressure \_\_\_\_\_ 3 bar at 90°C  
Operating temperature \_\_\_\_\_ 4÷90°C  
Filter rate \_\_\_\_\_ 600 µm

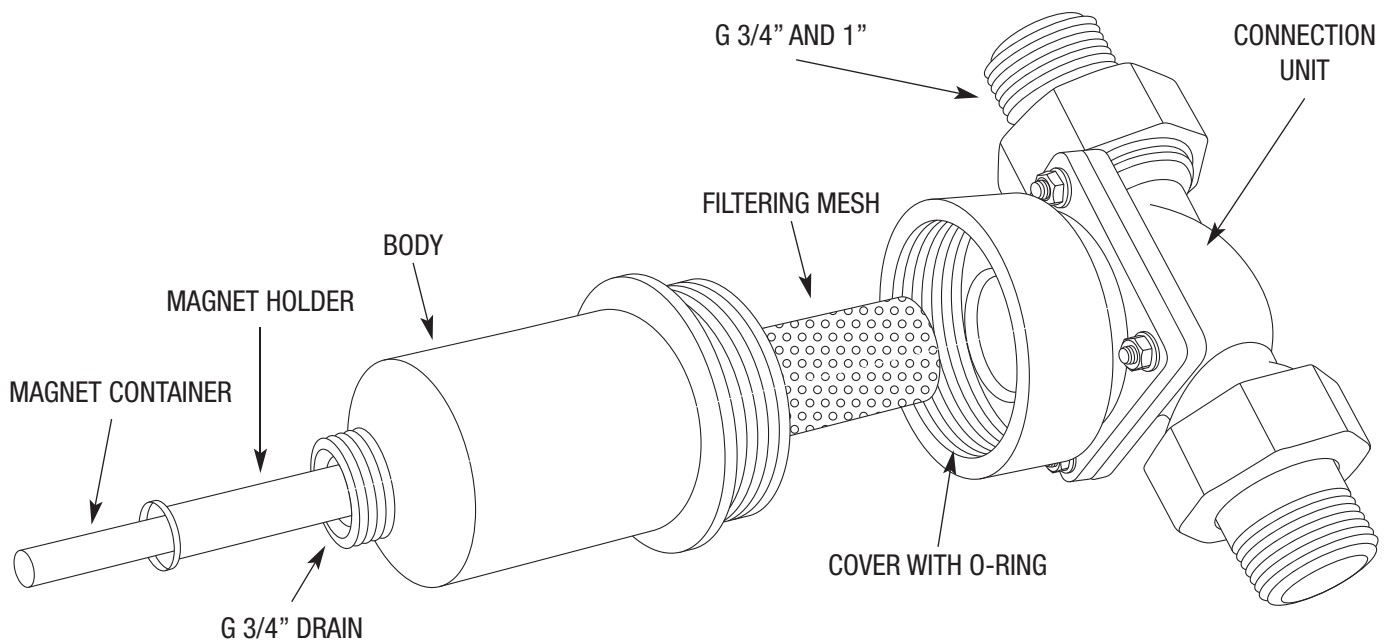
### SPECIFICATIONS

**FDM-2/A** - Plastic connection unit with 3/4" and 1" unions: Reinforced PA66 polyamide.  
Body and cover: Reinforced PA66 polyamide.  
Filtering cartridge: AISI 304 L stainless steel.  
O-rings: EPDM.  
Discharge cap: CW 614 N brass - 3/4"  
Magnet: NdFeB - 4500 Gauss - CW 617 N brass magnet container.  
Magnet holder: Polypropylene.



**FDM-2/A**

3/4" and 1" plastic



# Sludge Filter

## WORKING CONDITIONS

Compatible liquids \_\_\_\_\_ water, water + glycol  
Max. operating pressure \_\_\_\_\_ 3 bar at 90°C  
Operating temperature \_\_\_\_\_ 4÷90°C  
Filter rate \_\_\_\_\_ 600 µm

## SPECIFICATIONS

**FDM-2/B:** brass connection unit with 3/4" unions: CW 617 N brass.  
**FDM-2/C:** brass connection unit with 1" unions: CW 617 N brass.  
Body and cover: Reinforced PA66 polyamide.  
Filtering cartridge: AISI 304 L stainless steel.  
O-rings: EPDM.  
Discharge cap: CW 614 N brass - 3/4".  
Magnet: NdFeB - 4500 Gauss - CW 617 N brass magnet container.  
Magnet holder: Polypropylene.



**FDM-2/B**

3/4" brass

**FDM-2/C**

1" brass

# FDM-3

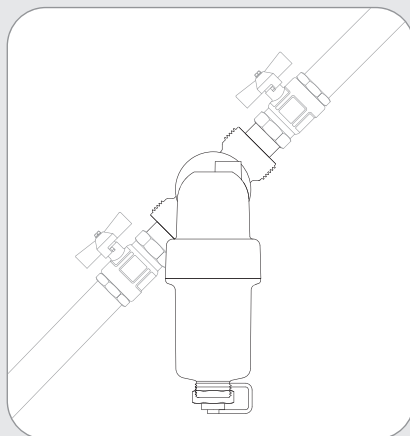
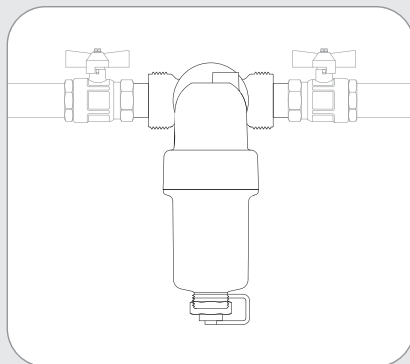
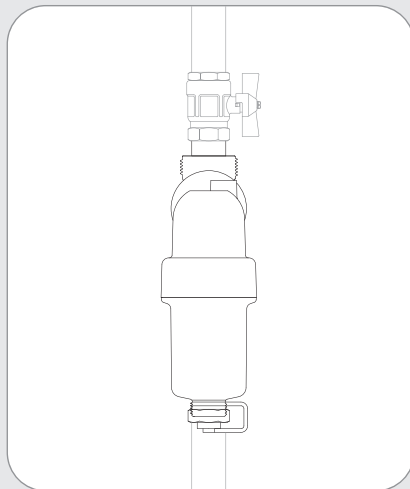
## INSTALLATION DIRECTIONS

**FDM-3** must be installed respecting the flow direction indicated by the arrow on the coupling tee and with the body always in the upright position; **the FDM-3 swivel joint unit allows the filter to be adapted to any piping inclination.**

The special metal clip allows the filter to be quickly disassembled.

**FDM-3 head is equipped with a threaded cap,** which can be used both to vent and load the system with protective/treatment chemical additives.

It is recommended the installation of shut-off valves before and after FDM-3.



## WORKING CONDITIONS

Compatible liquids \_\_\_\_\_ water, water + glycol  
 Max. operating pressure \_\_\_\_\_ 3 bar at 90°C  
 Operating temperature \_\_\_\_\_ 4÷90°C  
 Filter rate \_\_\_\_\_ 600 µm

## SPECIFICATIONS

Fully rotational plastic connection group with 3/4" and 1" unions:  
 Reinforced PA66 polyamide.  
 Body: Reinforced PA66 polyamide.  
 Filtering cartridge: AISI 304 L stainless steel.  
 O-rings: EPDM.  
 Discharge cap: CW 614 N brass - 3/4".  
 Magnet: NdFeB - 4500 Gauss - CW 617 N brass magnet container.  
 Magnet holder: Polypropylene.  
 Vent / loading cap: CW 614 N brass.  
 Locking clip / fork: stainless steel AISI 304.



**FDM-3**

3/4" and 1" plastic

# NEUTRAL COND

## ACID CONDENSATE NEUTRALISERS FOR WALL-MOUNTED CONDENSING BOILERS

Condensing boilers reach elevated energy efficiency because the heat produced by the discharge gases used to preheat water instead of being dispersed outdoors. This process determines the formation of acid condensate, which is often simply discharged into the sewer pipes leaving the residence. A condensing boiler adapted to an average residence can produce up to 800 litres of acid condensate a year (pH 4.0)

To limit the damage to the sewage system and protect the environment, the environmental standards in many countries only allow water with a pH between 5.5 and 9.5 to be discharged. **Neutralisers are in-line devices containing substances that neutralise the acid condensate from the condensing boiler.**

The condensate that flows through the device comes into contact with the neutralising substances.

The neutralisers must only be installed on the condensate discharge line in a lower position compared to the boiler discharge to facilitate evacuating the condensate.

Once the load of neutralising material (Neutral Mini) or the cartridge (Neutral Cond) are exhausted, the filter must simply be refilled with a new load (Neutral Mini) or a new cartridge (Neutral Cond).

### Advantages

- ✓ Effectively neutralise acid condensate
- ✓ Quick, simple assembly
- ✓ Easy cleaning and maintenance
- ✓ Suitable for all wall-mounted condensing boilers
- ✓ Do not interfere with boiler operation

#### WORKING CONDITIONS

Maximum operating pressure \_\_\_\_\_ 3 bar (43 psi)  
 Maximum operating temperature \_\_\_\_\_ 55°C (131°F)  
 Minimum operating temperature \_\_\_\_\_ 4°C (39.2°F)

#### SPECIFICATIONS

Head, ring nut and bowl: pure polypropylene.  
 O-ring: VITON.  
 Vent valve: polypropylene body with VITON o-ring.  
 Cartridge: Polystyrene.  
 IN/OUT connections: 3/4" - 1".  
 Dimensions (mm): width 145 - height 321.



# NEUTRAL MINI

#### WORKING CONDITIONS

Maximum operating pressure \_\_\_\_\_ 3 bar (43 psi)  
 Maximum operating temperature \_\_\_\_\_ 55°C (131°F)  
 Minimum operating temperature \_\_\_\_\_ 4°C (39.2°F)

#### SPECIFICATIONS

Head and bowl: reinforced polypropylene.  
 O-ring: EPDM.  
 IN/OUT connections: 3/4" + hose holder in NYLON.  
 Dimensions: diameter 70 mm - height 193 mm.



#### ACCESSORIES INCLUDED



connection joints  
Neutral Mini

pH test kit (strips)  
both models

#### SPARE PARTS / REFILL



Neutral cartridge  
Neutral Cond

packets  
Neutral Mini

0.5 kg pack  
Neutral Mini

