

TF1 Total Filter with Protector+ Filter Fluid 1" with valves 59918

- Hydrocyclonic and magnetic in-line filter - unique action removes magnetic and non-magnetic debris from the system.
- Includes one bottle of Fernox Protector+ Filter Fluid to aid collection of circulating debris to the filter. Unique drain valve acts as a dosing point
- Cleaned in minutes without removal or disassembly
- Will not block or restrict flow
- All valves and fittings included
- 5 year warranty



The award-winning, TF1 Total Filter combines hydrocyclonic action with powerful Neodymium magnetic assemblies, to remove magnetic and non-magnetic contaminants from system water and contain them safely within the filter. Made from precision-engineered composite plastic, this filter fits onto vertical and horizontal pipework. For ease of installation, it can operate up to a 45° angle. It can be cleaned in minutes and does not restrict flow.

Supplied with an enhanced inhibitor product, Protector+ Filter Fluid, which includes a dispersant to maximise the effectiveness of a filter in collecting debris. The complementary role of the chemical and filter provides the ultimate in boiler and system protection.

Additional Information

The TF1 Total Filter is constructed from a high strength, glass reinforced polymer, which has good hydrolysis resistance as well as high resistance to strain and abrasion. The polymer is compatible with glycols and additives and is suitable for use in central heating systems.

The TF1 Total Filter has been designed to ensure there is minimal pressure loss whilst continuing to maintain a high collection efficiency. The unique hydrocyclonic action, magnet assembly, and area of low flow have all been engineered to allow the filter to capture a range of system contaminants, whilst not impacting the rest of the heating system.

The TF1 Total Filter utilises a range of high-quality component parts that ensure the filter offers optimum performance. All isolation valves are designed to allow users to operate them easily by hand, whilst also providing a secure connection to the system and a robust service point. The magnet is manufactured using a premium grade of neodymium, enabling a high-efficiency capture rate, as well as a robust filtration medium that will ensure a continued and consistent level of collection.

Application

The TF1 Total Filter can be connected directly on to the pipework using the valve fittings provided. The TF1 Total Filter can be installed in any one of 24 separate orientations enabled by its unique inlet/outlet mechanism. The TF1 Total Filter (UK patent

granted No. 2448232) is a revolutionary in-line filter, which combines Hydrocyclonic action with specially designed magnet assemblies, to remove both magnetic and non-magnetic contaminants from system water and contain safely within the filter before removal.

The TF1 Total Filter can be installed on vertical or horizontal pipework, in accordance with the flow direction indicated by the arrow on the manifold. Ideally the filter should be fitted on the return to the boiler and can be installed at up to 45° from the vertical position if space or head height is restricted.

The recommended 'in use' concentration of Protector+ Filter Fluid is 0.385%. A single dose of this product treats and protects a larger sized property with a heating system of 130 litres, up to 16 radiators or 250 sqm of underfloor heating. For open vented systems add via the feed and expansion tank. For sealed systems add via a suitable dosing point (e.g. a towel rail, or an in-line system filter). Alternatively, use a suitable dosing vessel to inject the product into the system. In single feed indirect cylinders, e.g. 'Primatic' or similar, potable water chemicals must be used. We recommend that untreated, or sludged systems are thoroughly cleaned and flushed in accordance with BS 7593:2019 and Benchmark using Fernox Cleaner F3/F8, before treating with Fernox Protector+ Filter Fluid, as existing debris can damage the installation. Fernox Protector+ Filter Fluid must be used with the Fernox TF1 Filter range, or other in-line system filters. Use in microbore systems is not recommended.

Fernox Protector+ Filter Fluid is an enhanced corrosion inhibitor, combining corrosion inhibition with dispersant properties. It is specifically formulated to prevent setting and aggregation of corrosion deposits and contaminants within central heating systems, to deliver the debris directly to an in-line filter (such as one from the Fernox TF1 Filter range) for fast removal and containment. This function allows systems to run more efficiently by minimising the settling of debris in low flow areas such as radiators, which causes cold spots and facilitates further corrosion underneath the debris.

Protector+ Filter Fluid gives long-term protection of domestic central heating systems against internal corrosion and limescale formation. It is suitable for all types of boiler, radiators and pipe work systems. Protector+ Filter Fluid is compatible with all metals and materials commonly used in central heating systems. It is suitable for use with all types of water, including softened water and deionised water. Protector+ Filter Fluid has been formulated to have best-in-class pH buffering ability, which keeps system water pH between 6.5-8.5, giving optimum protection for mixed-metal systems. To comply with BS 7593:2019, Protector+ Filter Fluid levels should be checked annually. The concentration of the product can be easily measured on site using a Fernox Protector Test Kit, or by using the Fernox Water Quality Test postal service. BS 7593:2019 also states that after 5 years, systems should either be re-dosed, or a laboratory test performed, such as the Fernox Water Quality Test.

Package, Handling & Safety

As with all magnetic products, if you have an implanted cardiac device extra caution should always be taken when handling any magnetic filter.

Fernox Protector+ Filter Fluid is supplied in 500 ml bottles.

Fernox Protector+ Filter Fluid is classified as non-hazardous for human health, but as with all chemicals, keep out of reach of children. In case of contact with eyes or skin, rinse immediately with plenty of water.

Performance

Suitable Fluids:

Water

Inhibited Glycol Solutions

Fernox Chemical Range / System Additives

Maximum Percentage of Glycol - 50%

Maximum Working Pressure - 50 L/min

Maximum Working Temperature - 100°C

Capture Rate - Up to 100% of system contaminates

Operating Principle - Contaminated water enters the filter via the manifold, carrying a variety of system debris and particulate matter held in suspension. This debris, including ferrous impurities such as Magnetite, move through the manifold and into the main body of the filter.

The TF1 Total Filter utilises Hydrocyclonic filtration. A Hydrocyclone is a static device that applies centrifugal force to a liquid mixture to promote the separation of particles.

The Hydrocyclonic action has been designed to convert incoming liquid velocity into rotary motion. As water enters the filter, it spins around and down the outside of the filter, carrying particles with it. The shape of the filter has been designed to create a dead zone at the bottom where heavier particles are deposited.

The Hydrocyclone in the TF1 Total Filter has been optimised in order to allow for the maximum filtration ability of both magnetic and non-magnetic material.

Once the flow of water has reached the bottom of the filter, water moves back up through the centre of the TF1 Total Filter, carrying particles over the magnet sheath, promoting further magnetic filtration and enhancing the collection capabilities of the filter.

Any dirt collected within the filter can then be discharged by removing the magnet from the sheath and opening the drain valve. This procedure is shown in the cleaning guide and does not require system shutdown, or the filter to be disassembled.

Specification

Filter Body – Glass filled, engineering polymer

Manifold – Glass filled, engineering polymer

Drain Valve – Nickel plated brass

Isolation Valves – Nickel plated brass

Circlip – Stainless Steel

Seals & Washers – EPDM

Fernox Protector+ Filter Fluid is a blend of corrosion and scale inhibitors and dispersants.

Form: Liquid

Odour: Aromatic

Colour: Light Yellow

pH (conc): 8.3

pH (in use): 7.8-8.5

SG: 1.135 at 20°C

Single Item

Height mm	112
Width mm	341
Depth mm	232
Weight kg	2.160
Barcode EAN	5014551599185

Outer Carton

Outer Height mm	240
Outer Width mm	474
Outer Depth mm	349
Outer Weight kg	8.740
Transit Type	CP1 1200 x 1000
OCU Barcode	05014551000308

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