

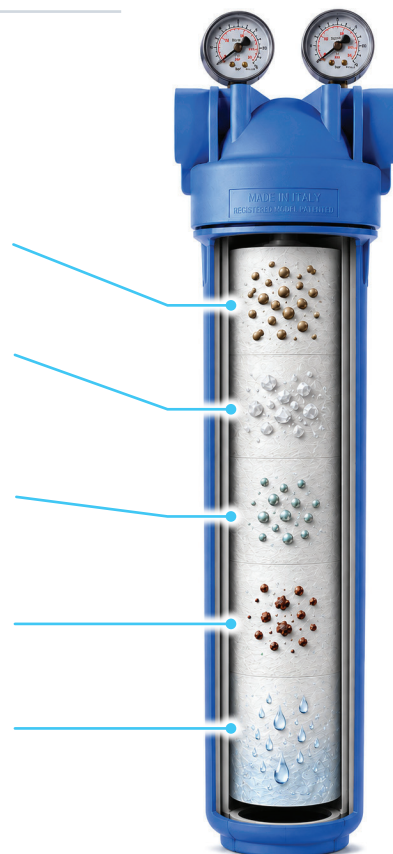
Technical Data Sheet

Tankless and Tank Water Heater Filtration Kit Benefits

1. Cartridge Replacement Interval and Performance Monitoring

The filter cartridge is designed to provide multiple levels of protection:

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Sediment Filtration – Removes suspended solids down to 5 microns, helping protect valves, flow meters, pumps, and piping from particulate damage and premature wear
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Scale Reduction – Reduces the effects of hardness minerals (calcium and magnesium) in water up to 15 grains per gallon (gpg). Scale buildup can reduce heat transfer efficiency, restrict water flow, and shorten the service life of heating coils and other metal components
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Corrosion Protection – Helps minimize the effects of chlorides, silica, and silt, which can contribute to corrosion, pitting, and accelerated deterioration of metal surfaces when present at elevated levels
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Iron Protection – Provides protection in water containing up to 0.3 ppm of iron, helping prevent reddish discoloration and staining caused by iron deposits
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Descaling Action – If scale reduction media comes into contact with existing calcium scale on metal surfaces, it will gradually dissolve and remove the buildup over time, helping restore system efficiency



The sediment filter and corrosion inhibitor are not typically the limiting factors in cartridge life. Instead, cartridge replacement is primarily determined by the capacity of the scale reduction media.

The cartridge is engineered to treat water with hardness levels up to 15 grains per gallon for approximately 12 months under normal operating conditions. Even under demanding applications, such as continuous operation at 5 GPM for up to five hours per day, the cartridge is designed to achieve this service life. While the media is capable of handling slightly higher hardness levels and may continue to perform beyond 12 months, the recommended replacement interval has been established to provide consistent performance and simplify preventive maintenance.

For water hardness exceeding 15 grains per gallon, Atlas Filtri recommends replacing the cartridge every six months or installing two cartridges in parallel to increase treatment capacity.

2. Purpose of the Pressure Gauges

The inlet and outlet pressure gauges are used to monitor the pressure differential across the filter cartridge. As sediment accumulates within the cartridge, the pressure drop increases.

A pressure differential of approximately 20 psi indicates that the cartridge should be replaced due to sediment loading.

However, in most installations, the scale reduction media reaches the end of its effective service life before a significant pressure differential develops. For this reason, the recommended replacement schedule should be based primarily on elapsed service time rather than pressure drop alone.



3. Water Hardness and Cartridge Life

The standard cartridge is rated for water hardness up to 15 grains per gallon.

When hardness levels exceed this value, Atlas Filtri recommends either:

- Replacing the cartridge every six months, or
- Installing two cartridges to provide additional treatment capacity

It is also important to understand that not all hardness minerals contribute equally to scale formation. Laboratory hardness tests measure total hardness, but only a portion of those minerals, primarily calcium bicarbonate, forms adherent scale on heated metal surfaces. Other dissolved hardness minerals may remain in solution and contribute little or no scaling.

Determining the actual scaling potential of a water supply requires a comprehensive water analysis. Because this level of testing is generally not performed by most plumbing contractors or installers, the cartridge has been conservatively rated for water hardness up to 15 grains per gallon.

If scale has already formed inside a water heater or heat exchanger, replacing the cartridge with a new scale reduction cartridge will gradually dissolve existing scale deposits over time, helping restore system performance and improve heat transfer efficiency.

Check out all of Atlas Filtri's various solutions and kits to meet the application requirement for your filtration needs at atlasfiltri.com



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Atlas Filtri North America LLC
1068 North Farms Road, Building 3, Wallingford, CT 06492, USA
Office +1 (203) 284-0080 | email: atlasfiltrinorthamerica@atlasfiltri.com
A company of the Atlas Filtri Group, with headquarters and primary production in Italy, and an additional production site in the US.