



Water Treatment

Carbon and Media Cartridges

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Water Treatment Cartridge Technology

The control of specific dissolved contaminants is essential in a range of applications, from manufacturing make-up water to point of use. Filerder has a variety of technologies which together protect processes, equipment and improve personal wellbeing.

Ion Exchange Technology

There are two primary methods of water treatment, in which resin beads are employed to achieve ion exchange and ultimately, purified water.

In the first, resin beads will exchange either positive ions (cations) or negative ions (anions) to achieve purified water, as illustrated by softening or nitrate reduction.

In contrast, mixed-bed resin will remove both positive and negatively charged ions in exchange for water forming molecules, as in the example of deionisation.

Softening

Cation based resin exchanges calcium and magnesium for sodium ions

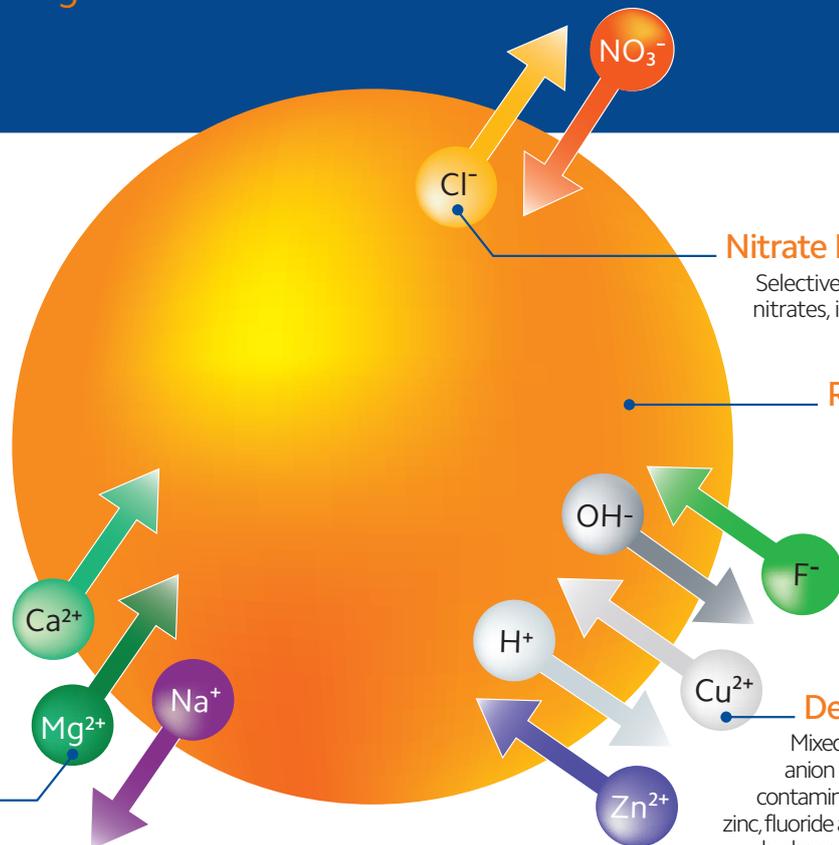
Nitrate Reduction

Selectively targets toxic nitrates, in exchange for chloride ions

Resin Bead

Deionisation

Mixed-bed cation and anion beads exchange contaminant ions such as zinc, fluoride and copper with hydrogen and hydroxide; effectively forming H₂O



Water Treatment Solutions

Softening Resin has been developed to reduce deposit-forming minerals, such as calcium and magnesium, protecting varied equipment including steam ovens, commercial boilers and reverse osmosis systems. **Deionisation (DI)** is the process typically employed as the final polishing stage in a water treatment system. DI resin reduces dissolved ions, thus creating a source of pure deionised water suitable for pharmaceutical, printed circuit board

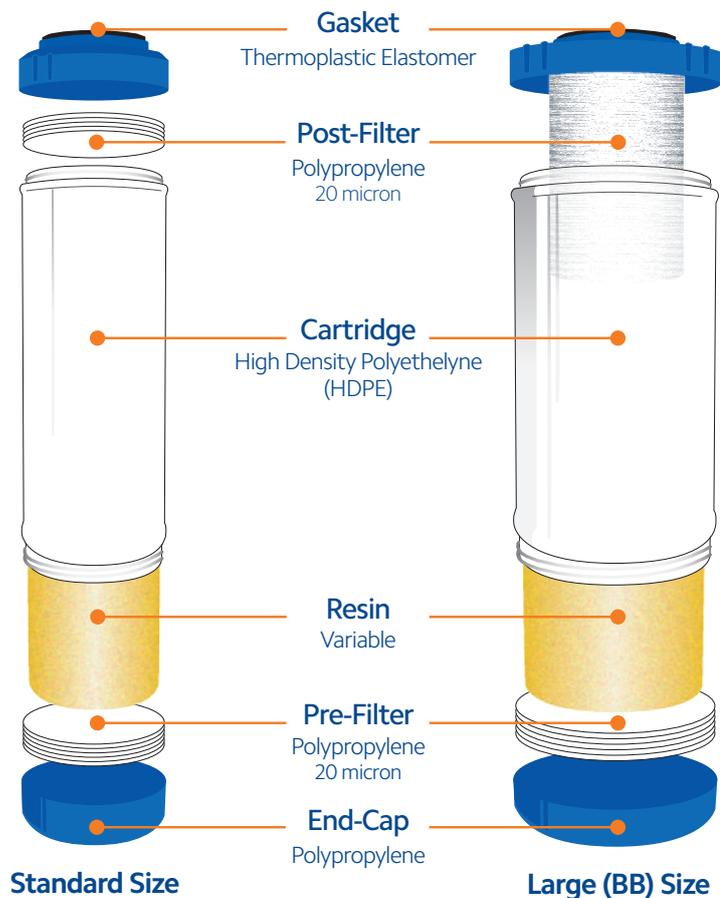
and other critical applications. **Heavy Metals** can have harmful effects on health as well as interfering with sensitive manufacturing processes. Heavy metal reduction resin specifically targets these contaminants, effectively reducing levels to meet drinking water standards. **Nitrate Removal** is essential in rural or agricultural areas, and considered a serious health problem for infants and the elderly. The selective anion resin reduces nitrate levels by exchanging them for harmless chloride

ions, meeting drinking water standards. **Iron Reduction** can be applied to drinking water applications. The proprietary media used specifically targets dissolved iron to improve taste and prevent orange-brown stains in sinks, toilets and other plumbing fixtures. **Scale Inhibiting** crystals are an alternative solution to ion-exchange treatment, preventing hardness forming ions from precipitating and the build-up of deposits on sanitary ware, food service equipment and drink vending machines.

“Fieder sells over **1,000 tons** of resin per annum capable of treating more than **1 billion** litres of water.”

SPECTRUM Resin Cartridge Construction

The range of SPECTRUM water treatment cartridges use a specially designed shell, which both integrates the necessary pre-filtration and maximises fluid distribution through the resin bed by using longitudinal flow to increase contact time.



Flexible Configurations

Designed predominantly to be used within plastic filter housings, water treatment cartridges can be combined with SPECTRUM

EFHS housing systems to provide a comprehensive solution to varying water challenges. Options range from single to triple housing systems and size options from 10" slimline to 20"BB. When using colour change PRDI cartridges, Pentair clear plastic housings should be used.





Scale Inhibiting

PCC

An alternative technology to ion exchange, the PCC series contains hexametaphosphate crystals which slowly dissolve, sequestering hardness contaminants and reducing the risk of limescale build up. Available in three different configurations, the PCC can be tailored for use in a variety of applications where scale is an issue.

PCC-106

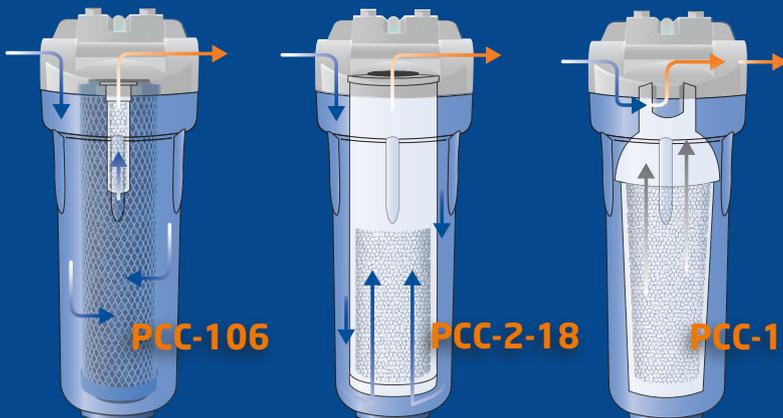
For use with DOE Cartridges

Designed for smaller applications and in conjunction with other filtration equipment, the PCC-106 is an insert element placed into the central core of DOE (double open-ended) cartridges. Perfectly designed for use with radial flow sediment and carbon cartridges, the PCC-106 uses hexametaphosphate media to prevent hardness forming ions from precipitating.

PCC-2-18

To fit Standard and Slimline Housings

Hexametaphosphate media used within PCC-2-18 cartridges separates hardness particles and forms a protective coating on surfaces, preventing scaling and accumulation; safeguarding against typical acid/alkaline contaminants that affect corrosion of water equipment and pipework. In a traditional 10" double open-ended configuration, the PCC-2-18 is designed for use in both standard and slimline filter housings.



Treatment Illustrated

Dissolving hexametaphosphate crystals treat water throughout each cartridge.

- **PCC-106** Feedwater flows through the carbon cartridge to permeate the dissolving crystals
- **PCC-2-18** The flow feeds from the base of the cartridge and through dissolving hexametaphosphate crystals
- **PCC-1** Feedwater flows across the top of the cartridge, drawing dissolved crystals into the outlet stream

Blue arrows = feed; orange arrows = treatment water.



PCC-1

For use with 3/4" Housings

This bypass feeder configuration contains the highest amount of hexametaphosphate in the range, providing extended service life and the capability to treat flow rates up to 19 litres per minute. The design of the PCC-1 allows scale inhibiting crystals to slowly dissolve into the feed stream, dosing the water to treat scale, corrosion and iron staining.

Key Features

- Effective protection from scale, corrosion and rust
- Alternative to ion exchange technology
- 3 unique designs to suit multiple applications

Typical Applications

- Coffee machines
- Food service equipment
- Private water scale treatment

Media Type

FDA approved hexametaphosphate crystals

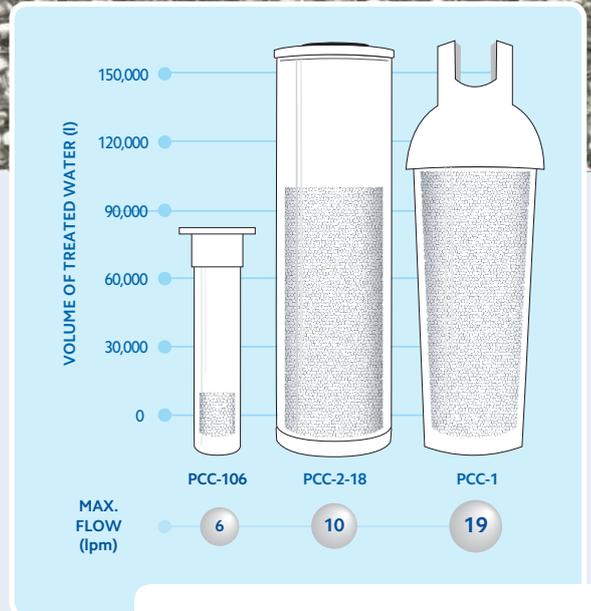
Configurations

Length (")

6	10
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Media Weight (oz)

PCC-106 = 1.4	PCC-2-18 = 18.5	PCC-1 = 24
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Cartridge Capacity

Volume of Treated Water (l)		
PCC-106	PCC-2-18	PCC-1
7,125	85,500	114,000

Specification

Operating Temperature Range
4-38°C

Max. Hardness
250mg/l CaCO₃

Part Number, Box Quantity & Weight

Code	Box Qty	Box Weight (kg)
PCC-106	24	1
PCC-2-18	6	5
PCC-1	6	5