

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. Filderer has a variety of technologies which together protect processes, equipment and improve personal wellbeing.

Ion Exchange Technology

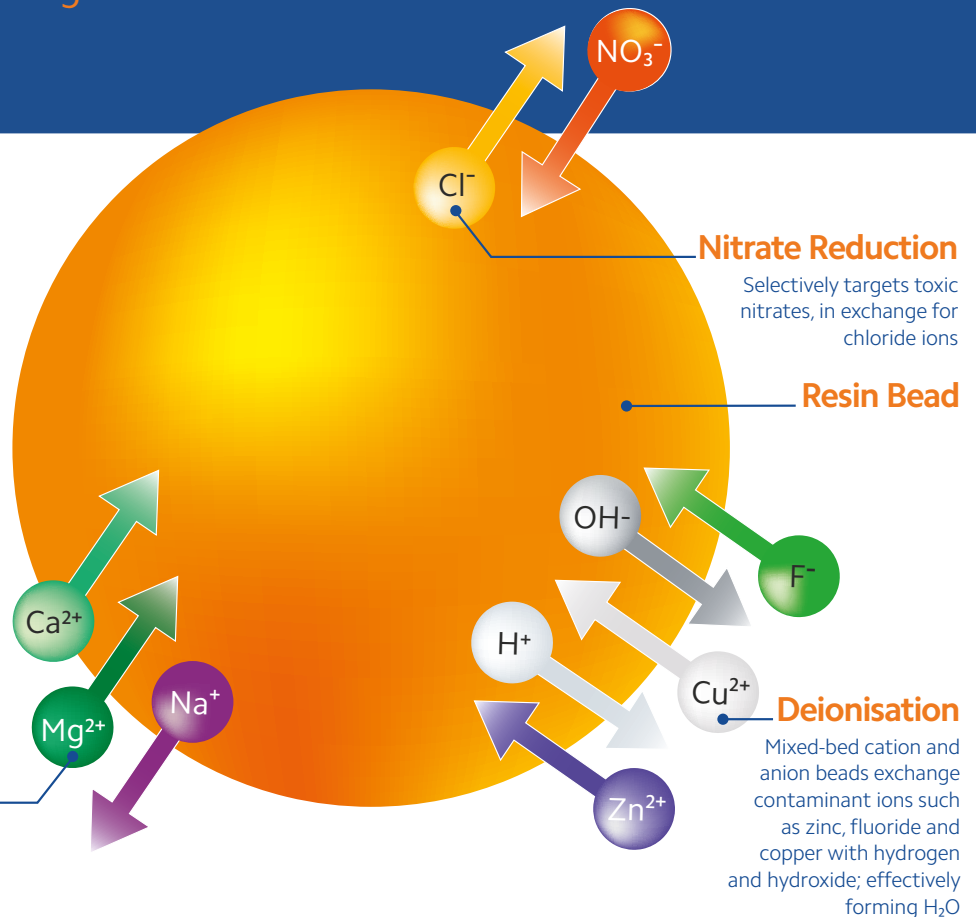
There are two primary methods of water treatment, in which resin beads are employed to achieve ion exchange and ultimately, purified water.

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



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

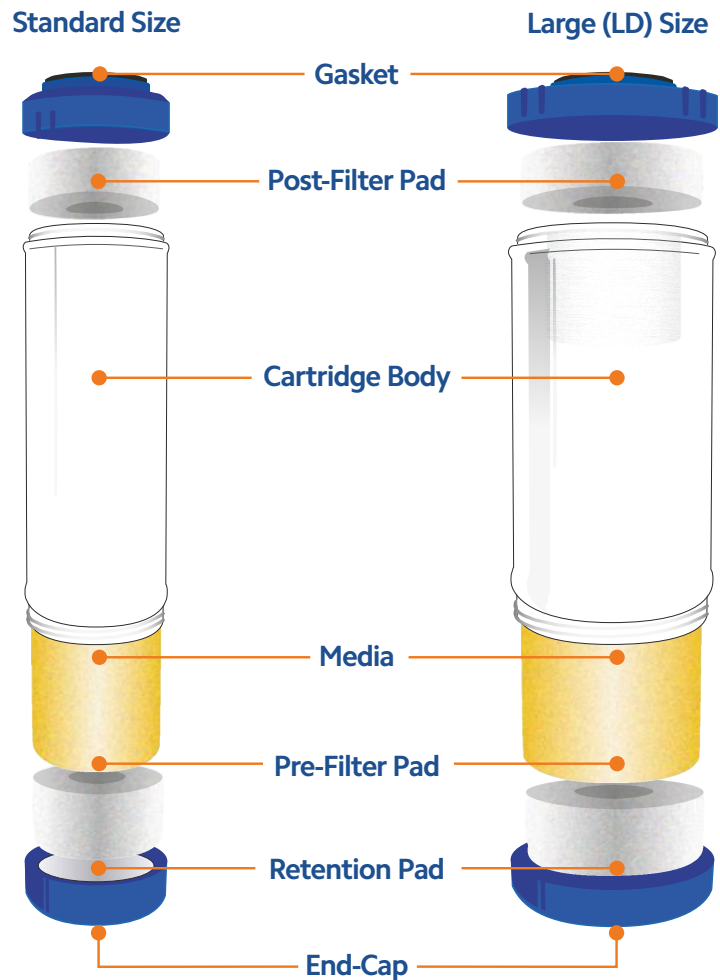
applications. **Heavy Metals** can have harmful effects on health as well as interfering with sensitive manufacturing processes. Heavy metal reduction resin specifically targets these contaminants, effectively reducing levels to meet drinking water standards. **Nitrate Removal** is essential in rural 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

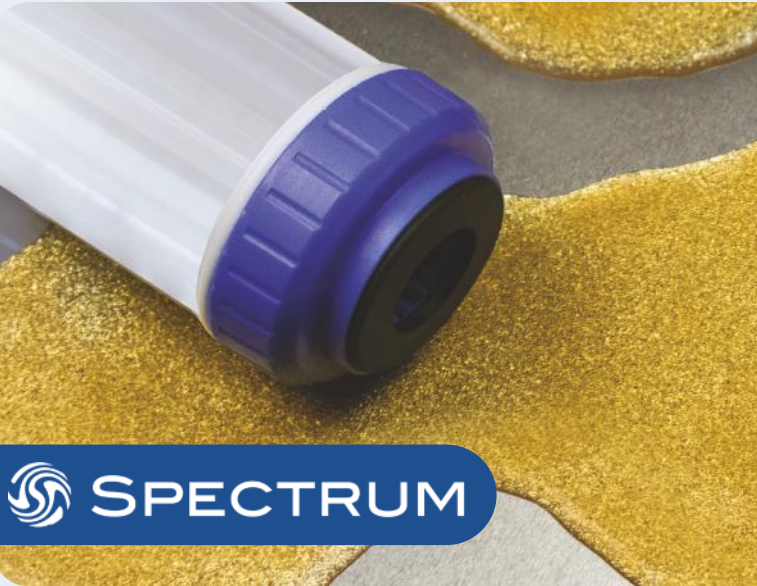
The range of SPECTRUM water treatment cartridges use a specially designed shell, which both integrates the necessary pre-filtration and maximises fluid distribution through the resin bed by using longitudinal flow to increase contact time.



Flexible Configurations

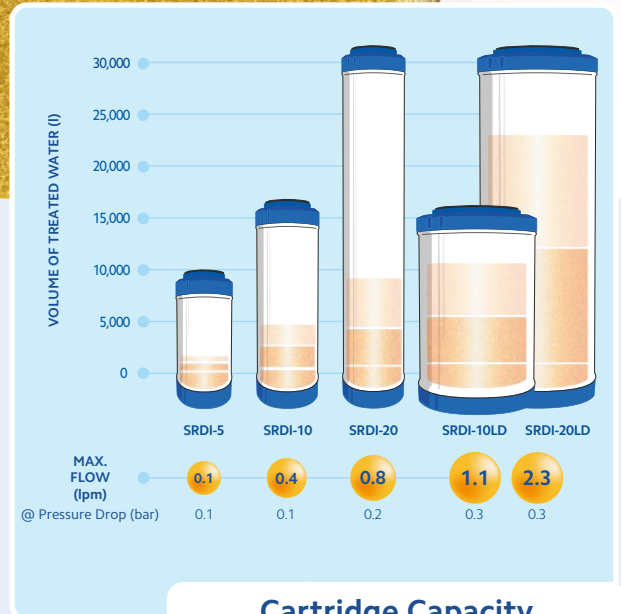
Designed predominantly to be used within plastic filter housings, water treatment cartridges can be combined with SPECTRUM EFHS housing systems to provide a comprehensive solution to varying water challenges. Options range from single to triple housing systems and size options from 10" regular to 20"LD. When using colour change SRDI-IND cartridges, SPECTRUM clear plastic housings (EFH-SC) should be used.





Ion-X Deionising SRDI

The SRDI excels in the production of high purity water with average conductivity levels of 0.1µS/cm. The SRDI can be used in conjunction with a sediment pre-filter to deliver small batches of DI water straight from the tap. Where demand increases, the SRDI can be situated post-RO for the polishing of permeate water.



Key Features

- Produces high purity, silica free water for low volume applications fed directly from mains
- Cost effective solution in batch pure water processes post RO

Typical Applications

- Glass wash
- Dental
- Autoclave
- Post RO polishing

Configurations

Length (")

5	10	20
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Diameter

Regular	Large = LD
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Media Type

55% Strong acid cation gel-type (H⁺ Form)
45% Strong base anion gel-type (OH⁻ Form)

Cartridge Capacity

Total Dissolved Solids (mg/l) Cartridge Length	Volume of Treated Water (l)				
	5	10	20	10LD	20LD
RO Permeate, 5mg/l	1,200	4,800	9,400	10,600	23,500
RO Permeate, 10mg/l	600	2,400	4,700	5,300	11,750
Mains Water, 300mg/l	20	80	160	180	400

Specification

Operating Temperature Range
4-45°C

Max. Operating Pressure
5.5 bar

Max. Operating Pressure Differential
1.0 bar

Part Number

Code	Length
SRDI	5
	10
	20
	10LD
	20LD

e.g. SRDI-5