

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

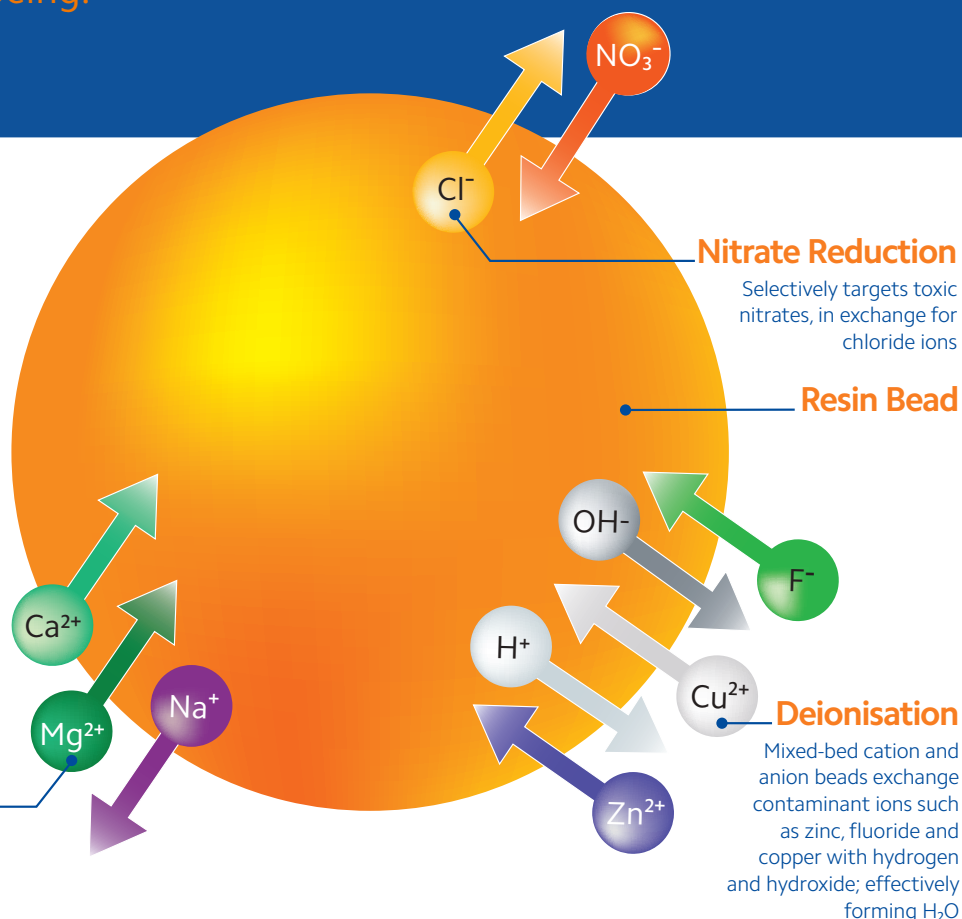
There are two primary methods of water treatment, in which resin beads are employed to achieve ion exchange and ultimately, purified water.

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



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

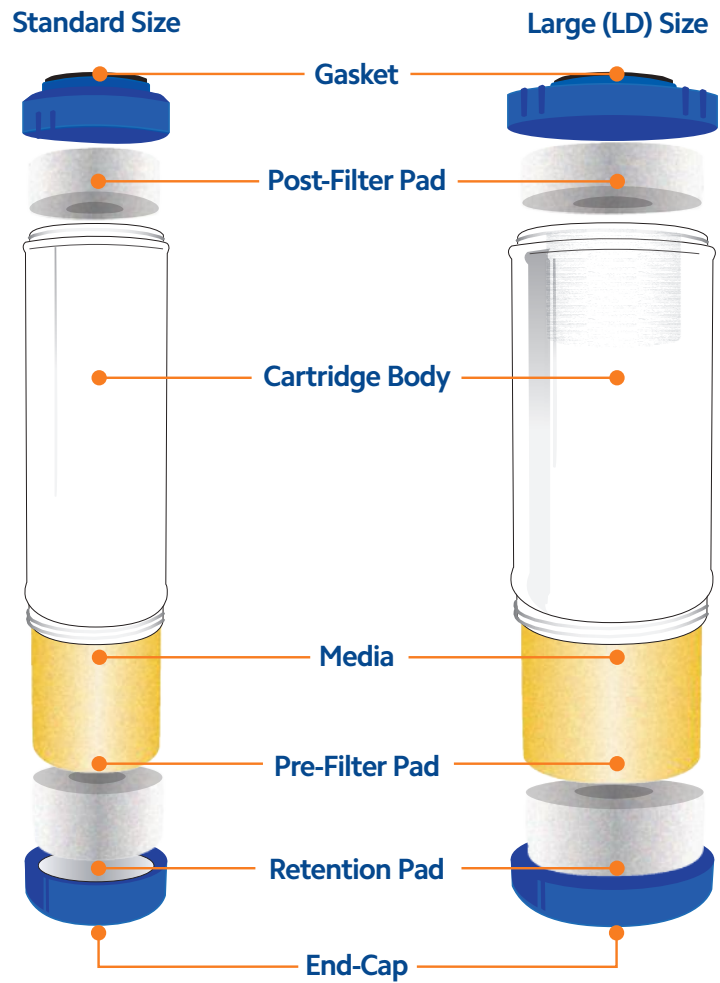
applications. **Heavy Metals** can have harmful effects on health as well as interfering with sensitive manufacturing processes. Heavy metal reduction resin specifically targets these contaminants, effectively reducing levels to meet drinking water standards. **Nitrate Removal** is essential in rural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





Water Treatment Cartridge Range

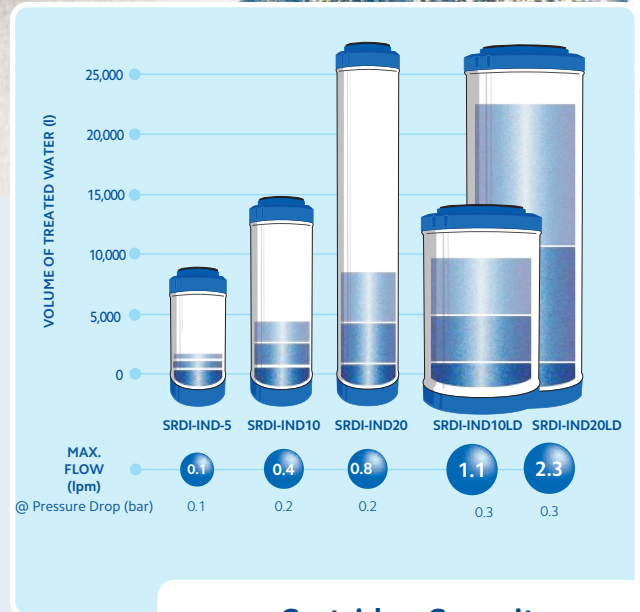
Fileder's range of water treatment cartridges provide a simple solution to the complex process of reducing dissolved contaminants. With flow rates from 0.1 to 23 litres per minute across the range and intended for use in single round plastic housings, this range offers simple yet effective solutions to common water quality issues; including protecting equipment from hardness scaling, extending service life, enhancing the aesthetics of incoming water or removing harmful nitrates.

Visual Indicating DI Water Production



Ion-X DI Colour Change SRDI-IND

The SRDI-IND offers exactly the same performance as the SRDI with added benefit of colour change indication to highlight resin exhaustion. Used as a standalone system to produce small batches of pure water, the SRDI is also the perfect performance indicator when used post large volume pressure vessels.



Cartridge Capacity

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



Key Features

- Resin changes from blue to brown to indicate exhaustion
- Provides water with a typical conductivity of 0.1µS/cm



Configurations

Length (")

5 10 20

Diameter

Regular Large = LD



Typical Applications

- Pharmaceutical
- Laboratory
- Dental
- Autoclave
- Post RO polishing

Media Type

60% Strong acid cation gel-type (H⁺ Form)
40% Strong base anion gel-type (OH⁻ Form)



Specification

Operating Temperature
4-45°C

Max. Operating Pressure
5.5 bar

Max. Operating Pressure Differential
1.0 bar @ 21°C

Part Number

Code	Length
SRDI-IND	5
	10
	20
	10LD
	20LD

e.g. SRDI-IND-20

