

What is a Water Softener ?

- Water Softener is a mechanic device that attaches to and eliminates hard substances to soften the water through a material called ion exchange resin and removes various metal and heavy metal ions and other waste matters in the water.

Alkali Water Similar to Na-type Hot Spring Water.(PH 7.5)

Importance of a Water Softener

When Using
Hard Water

Includes chlorine substances, accelerates various skin infections and aging, causes waterborne diseases

When Using
Soft Water

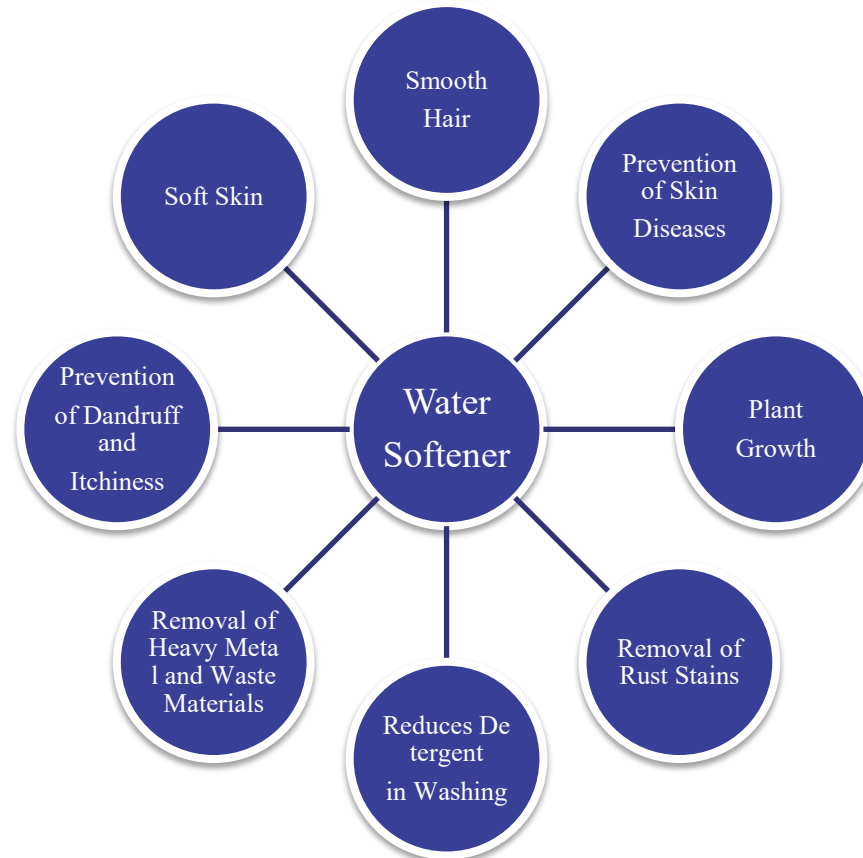
Removes chlorine and heavy metal substances,
Prevents atopy skin infections, prevents waterborne diseases, such as skin peeling and dandruffs

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Efficacy of Water Softener



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Water Softener

Makeup and Size of Ion Exchange Resin

Makeup

- High acidic positive ion exchange resin

Shape

- Oval-shaped waterway achieves ion exchange

Types

- Homogeneous resins, heterogeneous resins

Efficiency

- Homogeneous resins (1.5 times) > heterogeneous resins

Our Ion
Exchange Resin

- C100 ELT

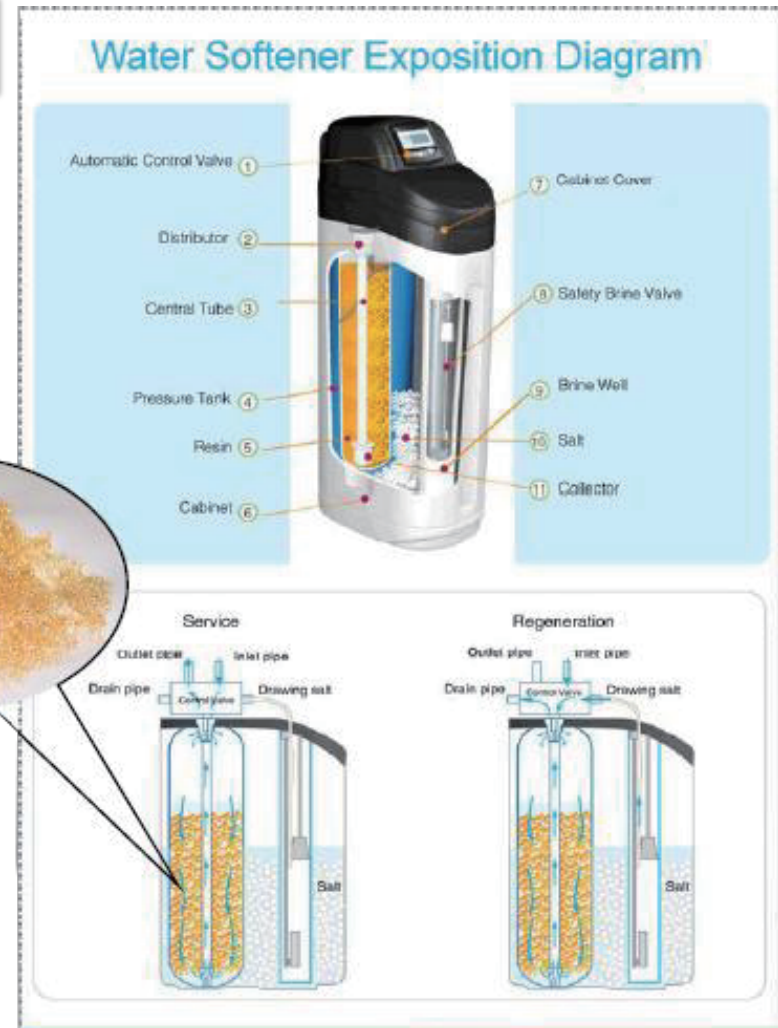
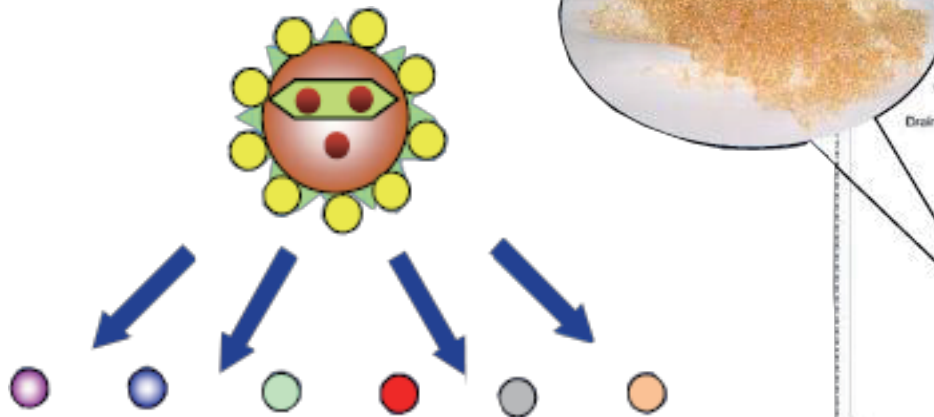
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Definition of Ion Exchange Resin

- The insoluble resins of Calcium (Ca^{2+}) and magnesium (Mg^{2+}) that can be exchanged is converted to Sodium (Na^{+})
- Particle Size: Φ 0.4~0.6 mm
- Weight: 0.6~0.9 (With water: 1.2~1.4)
- Exchange sulfuric acid



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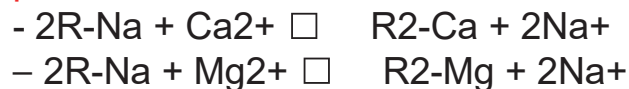
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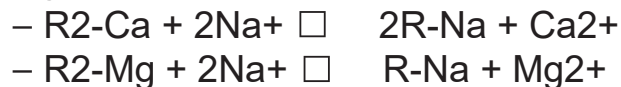
Principles of Ion Exchange Resin

1. Ion exchange using sulfuric acid (SO₃⁻), the exchanger exchange **Principles of Ion Exchange Resin** of the ion resin

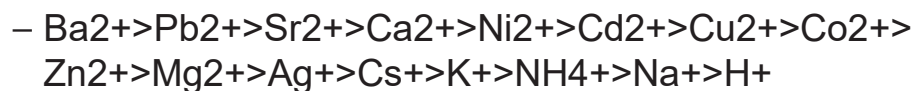
2. Water softening process through exchange and regeneration of positive ions following exchange priorities



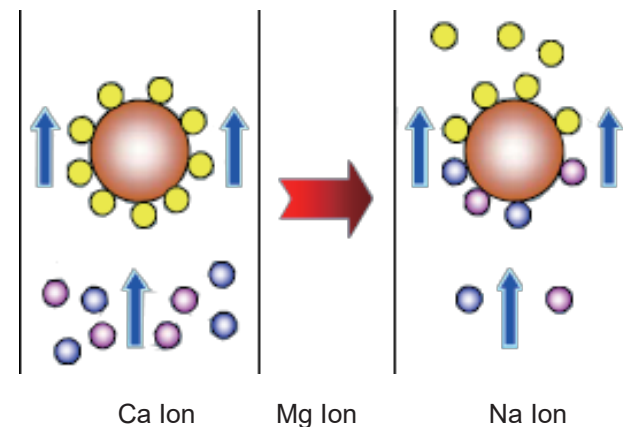
Regeneration



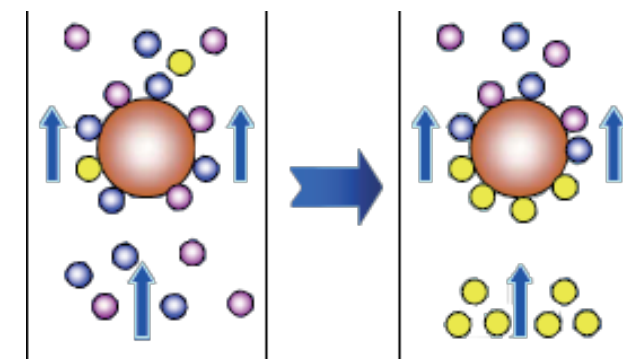
3. Selection of Positive Ions



Water Softening Process



Regeneration Process



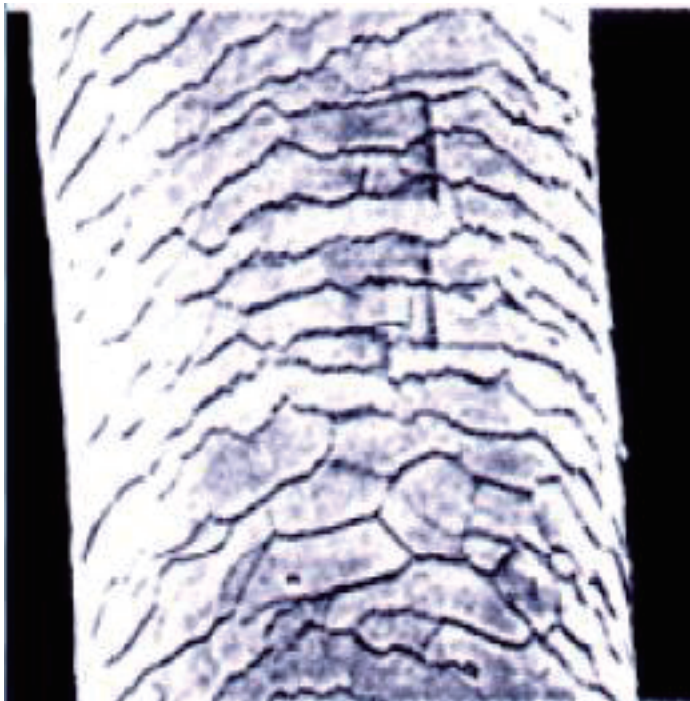
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Influence of Chlorine Compounds on Hair

No Chlorine Compound



Chlorine Compound



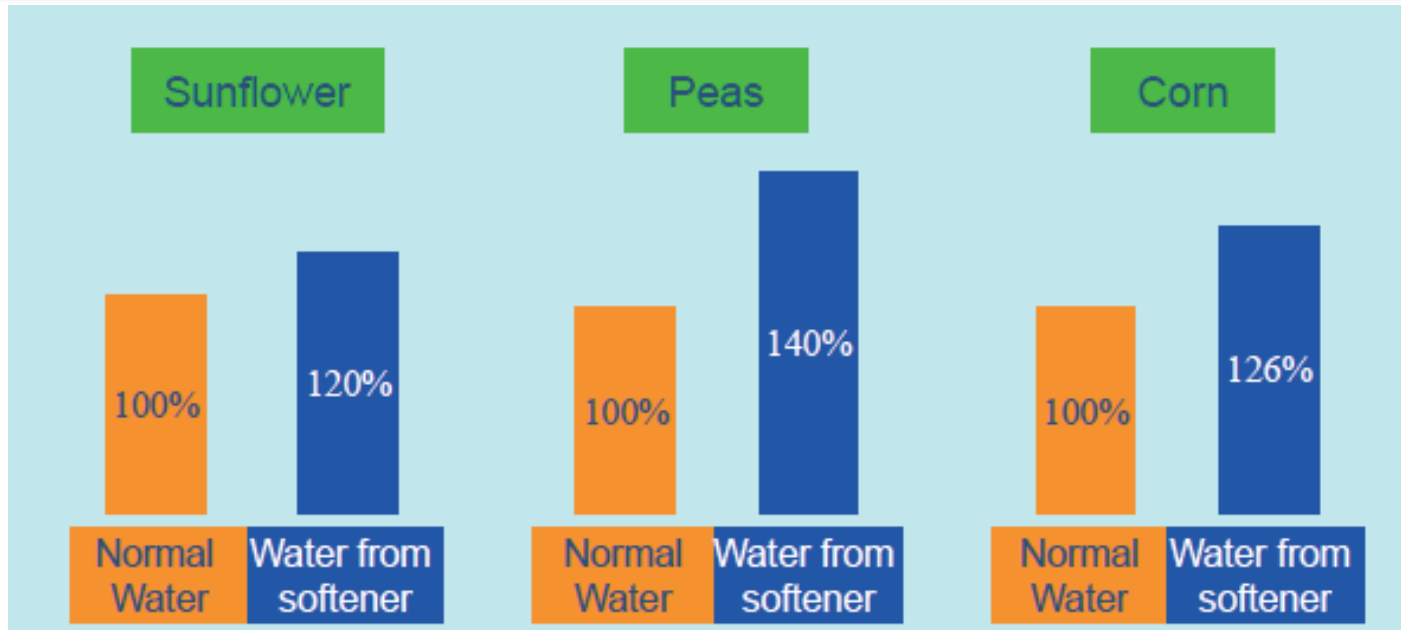
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Russia Science Academy's Research Report on Water from water softener



Plants: Plants that are naturally cultivated in soft water for a year showed excellent life span.

Animals: Spraying Water from Waco water softener on rat feeds reduced the rat's cholesterol level in the hepatic region to *2/3 after 2 weeks and to 2/5 after 90 days.*

The cholesterol level in blood also reduced.

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Water Softener

Thank You



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