

## Water Hardness

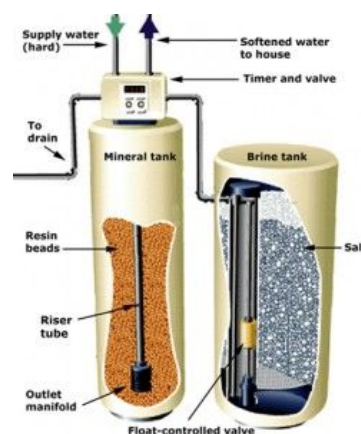
Calcium and Magnesium salts cause water hardness. These salts cause scale and damages to water systems, such as water heaters, boilers, household electrical appliances, etc. But they can also damage reverse osmosis membranes and humidification equipment.

## Water Softener

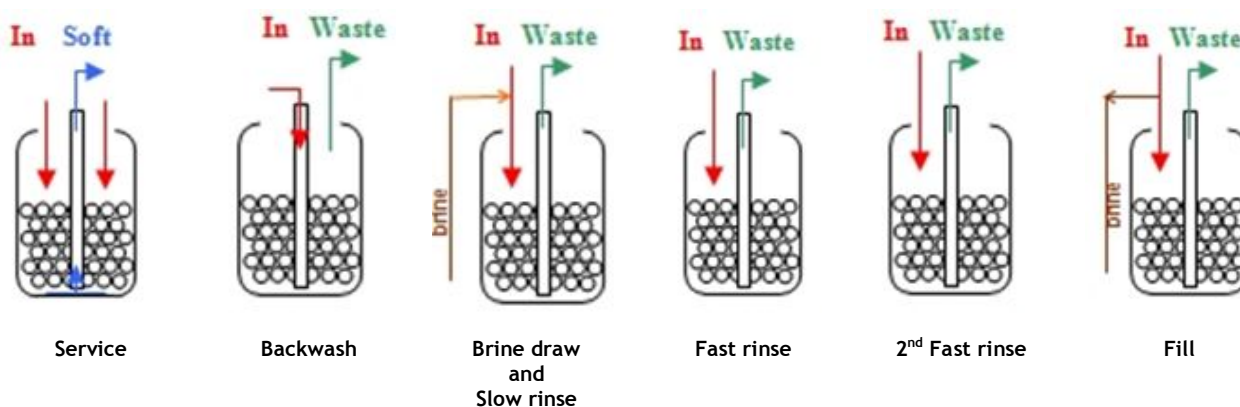
In order to prevent these damages, a water softener is used. A water softener is a device that replaces Calcium and Magnesium for Sodium. The amount of minerals does barely change, but the composition does. The Calcium and Magnesium carbonates are much more difficult to clean compared to Sodium carbonate. With a water softener your machines will not suffer from the white sediment, which is hard to remove.

For humidifiers that do not have, or just have partially, self cleaning nozzles, a water softener can be a good addition. This will reduce the likelihood of clogging of the nozzles.

Most water softeners have a single resin (softening) tank. They are best suited to applications where there is a steady demand for moderate capacities of softened water over the course of a normal working day. Regeneration is programmed to take place at a time when there is no demand (typically at 02:00 AM or some other time when water consumption is low).



## Water Softener Process Flow Diagram



Subject to changes.

### Technical Details

	8 l digital water softener	12 l digital water softener	30 l digital water softener
Maximum capacity of soft water	<u>Capacity resin column * 4,000 litre</u> degrees German hardness + 1		
Part number	10965	10772	10771
Surface required for the complete unit (width * depth * height) [ mm]	320 x 560 x 660	320 x 560 x 1,000	320 x 560 x 1,200
Weight [kg]	25	30	35
Capacity resin column [litre]	8	12	30
Dimensions resin column [mm]			Ø 205 * 1,130
Capacity brine tank [litre]	25	75	75
Dimensions brine tank [mm]			
Recommended nominal flow [litre/hour]			
Water hardness outgoing water [degrees German]	0		
Power consumption [kW]	0.02		
Materials of the brine tank	Poly Glass with an inner shell of high density Polyethylene		
Connection water in/ water out [inches BSP]	1		
Stand alone	Yes		
Auto restart after power failure	Yes		
Double secured floater	Yes		
Water free of solid particles	Yes		
Inlet dynamic water pressure min/max [bar]	1.4 - 8.5		
Pressure drop behind the back flow protection at full capacity [bar]	0.8		
Pressure drop with nominal flow [bar]	0.1 - 0.2		
Temperature min / max [degrees Celsius]	1 - 43		
Power connection [Volt / Hz]	230 / 50-60		
Recommended regeneration salt	Broxo 6-15		
Free connection to sewer	Required		
Time of regeneration	Forced regeneration after 7 days when the maximum capacity is not reached		
Regeneration	Volume controlled		
Recommendation	Install a sediment filter in the outgoing water line		
Salt level detector	Optional		
Bypass	Optional		

Subject to changes.