

# Saving Salt with Blending Valves

Water in our area is naturally high in minerals, or hardness. These minerals aren't harmful to our health, but they can leave behind deposits, spots and scale after water use.

Water softeners use salt to remove minerals to reduce scale. But that salt ends up down the drain and eventually in local freshwater streams, where it pollutes water.

## Blending valves

Blending valves are water softener parts that reduce salt use by letting some hard water bypass a softener.

Blending valves allow for water hardness levels that are not mineral-free but are low enough that scale buildup is minor or unnoticeable.

Some types of softeners have built-in blending valves, while other types are compatible with an add-on valve. Contact a dealer or plumber to see if a blending valve is available for your softener, or request one when you're buying new.

## Advantages

- **Customizable**  
Blending valves adjust to your preferred hardness level.
- **Inexpensive**  
Parts are inexpensive and easily added to compatible softeners.
- **Sustainable**  
Less water softened means lower salt use and less pollution.

## Madison Metropolitan Sewerage District

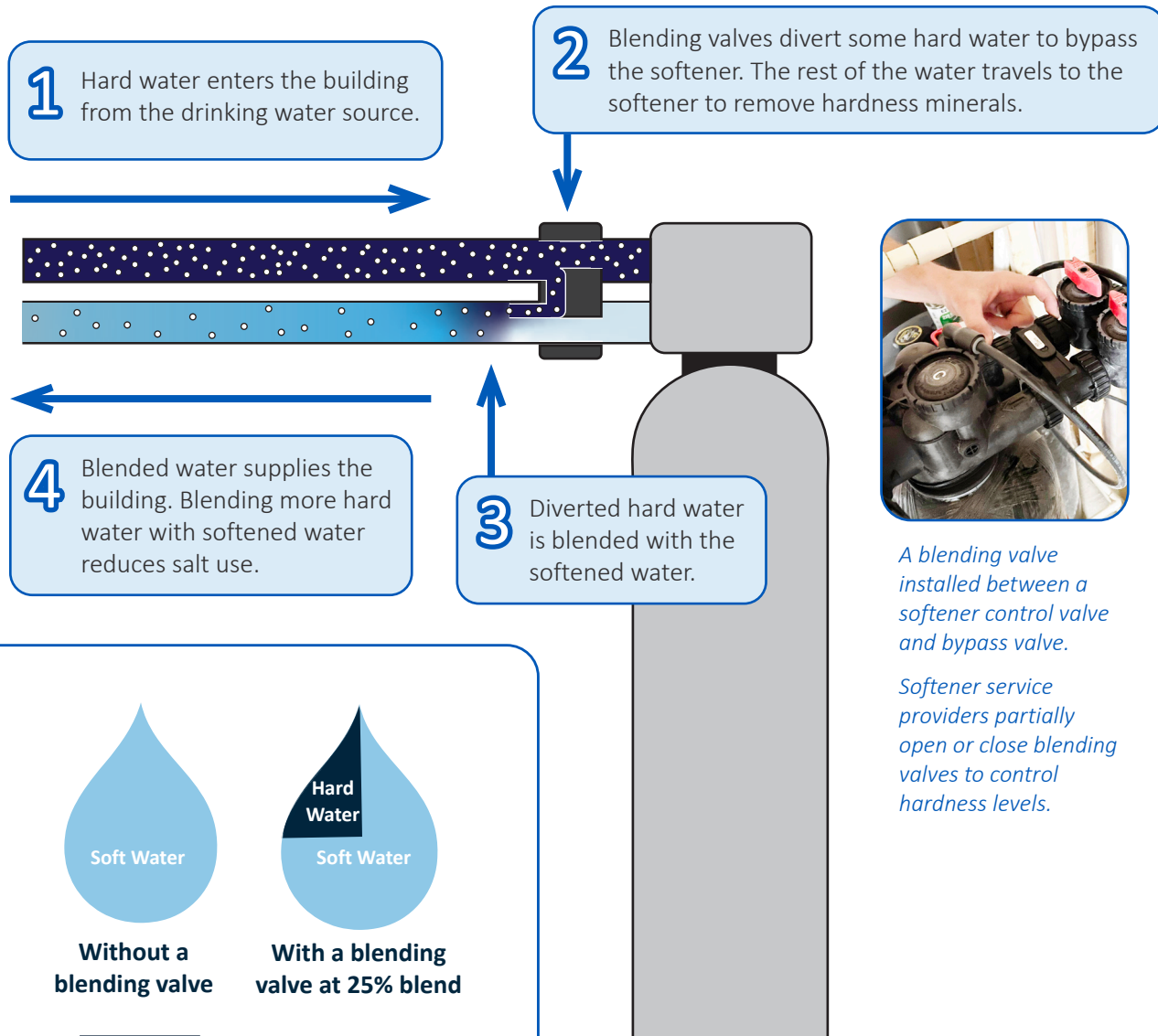
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Madison Metropolitan  
Sewerage District

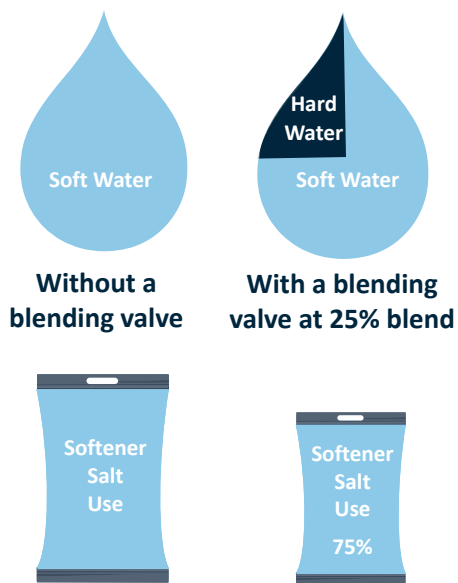


## How blending valves work



*A blending valve installed between a softener control valve and bypass valve.*

*Softener service providers partially open or close blending valves to control hardness levels.*



## Calculating salt savings

As more hard water is blended, less water is softened and less salt is used. For example, if water starts at 20 gpg hardness and blending is set to 25% hard water, the blended hardness becomes 5 gpg. Only 75% of the water is being softened, so the softener uses 25% less salt.

## Water hardness

Blending valves can be configured to your preferred level of water hardness. Hardness is defined as the concentration of calcium carbonate in grains per gallon (gpg).

**0-3.5**  
gpg

**Soft.** Softened water. Scale impacts are minimal but these levels require the most salt.

**3.5-7**  
gpg

**Moderately hard.** The ideal level of hardness per the U.S. Dept. of Energy. Blending to this level typically reduces salt use by 15-35%.

**7-10.5**  
gpg

**Hard.** Similar to Lake Michigan's natural hardness (7.5-8 gpg), where residents don't use water softeners.

**10.5+**  
gpg

**Very hard.** Madison area water is naturally very hard, ranging from 13-32 gpg depending on the well.