ONLINE SOFTENER MONITORING

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Emonix
How Water Softeners Work

**SOFTENING CYCLE**

1. **Water Softener**
   - Sodium charged ion exchange resin

2. **Hard water enters**
   - Softened water containing sodium ions

3. **Many gallons later**
   - Partially exhausted, but still delivering 100% soft water

4. **Capacity to soften water now ending**
   - Regeneration with salt brine now required
We don’t actually know if the water coming out is soft.
  - Different wells have different levels of hardness.
  - Resin deterioriates over time.
  - Etc.

So, to be safe, people typically regenerate 10-30% more frequently than they should.

Regenerating too frequently wastes salt.
HOW DO WE COMPUTE CAPACITY?

$$2 \text{ft}^3 \times \frac{100 \text{ g CaCO}_3}{\text{ft}^3} \times \frac{\text{gal}}{0.1 \text{ g CaCO}_3} = 2000 \text{ gal}$$

1500 gal
Culligan Aqua Sensor

~ $500?

Hach Autotitrator

~ $2500

Emonix

~ $2500
Hard Water from City → Soft Water to Building → Regeneration Signal
Average savings 27%

Money saved $1500-$3000 per year