



Arizona Department of Water Resources *Conserving Water Today for Arizona's Tomorrow*

Water Saving Technologies for Medical Facilities and Laboratories



Clinics, Urgent Care, and other medical facilities are very water intensive, similar to hotels or restaurants with food services, laundry facilities, and extensive plumbing systems. Thus, the water-saving practices used by those types of facilities should also be considered along with the water saving technologies unique to medical facilities.

The following describes some of the more water-intensive operations and equipment found in medical facilities, and provides alternatives and tips on how to cut down on their water use:

For More Water Conservation Information:

www.azwater.gov/conservation

Statewide Conservation Office
(602) 771-8422

Phoenix AMA
(602) 771-8688

Pinal AMA
(520) 836-4857

Prescott AMA
(928) 778-7202

Santa Cruz AMA
(520) 761-1814

Tucson AMA
(520) 770-3800

X-Ray Equipment:

1. **Digital x-ray equipment** eliminates all water use dedicated to film development. This also eliminates the need for backflow preventers. **(Water Savings: 75%-95%)**
2. For **large frame x-ray equipment**, install water saver kits on cooling water loops of the film developers. This eliminates continuously flowing cooling water. **(Water Savings: 100%)**



Vacuum Pumps:

1. For **medical and dental vacuum pump systems**, select a dry system to save water, energy and money. Dry vacuum pump systems also eliminate the need for the installation and annual inspection of reduced pressure zone backflow preventers. **(Water Savings: 100%)**
2. **Completely eliminate venturi aspirator systems**, which can use **1,181,500 gallons of water per year**, by using mechanical dry vacuum equipment. **(Water Savings: 100%)**

Sterilizers:

Sterilizers can represent a large amount of water use in a medical facility.

- Wherever possible, use **table top steam sterilizing units**, which use less water than free standing models.
- When using a free standing unit, choose one that has a **recirculation system** for the venturi ejector. This will reduce water use significantly. Older models with no venturi ejector or tempering water recirculation systems can be **retrofitted with water saving kits**. Water saving tips for units which use vacuums can be found in the vacuum pump section. **(Water Savings: 30% to 100%)**



Hood Systems:

- For **laboratory exhaust hoods**, use dry systems whenever possible. **(Water Savings: 100%)**
- Where **exhaust hood scrubber systems** are used, adjust flow rates to minimize water use. Incorporate recirculation systems and use alternative water sources whenever possible. **(Water Savings: 10%-75%)**
- Include **self-closing valves** on fume hood wash-down systems for special applications such as perchloric acid goods to limit water use.

Water Filtration:

Filtered water, used in such things as **kidney dialysis** and **intravenous fluids**, can be produced by using deionization resins or by a combination of deionization and reverse osmosis. Off-site **deionization** by resin tends to be **more water efficient**. However, if reverse osmosis is required, select equipment that minimizes the steam water rejection. The product water from reverse osmosis units should be able to be stored and used on demand as apposed to some older systems that continually waste the portion of produced water by dumping it into sewers.

(Water Savings: 30%-100%)



This fact sheet has been developed by the Arizona Department of Water Resources' Statewide Water Conservation Program in an effort to strengthen the culture of conservation throughout Arizona.