



# Water Saving Technologies for Medical Facilities and Laboratories

Clinics, Urgent Care, and other medical facilities are very water intensive. General water-saving practices as well as water saving technologies unique to medical facilities should be considered.

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:



## X-Ray Equipment:

- Digital x-ray equipment eliminates all water use dedicated to film development. This also eliminates the need for backflow preventers.  
**(Water Savings: 75%-95%)**
- 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

- 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%)**
- 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%)**

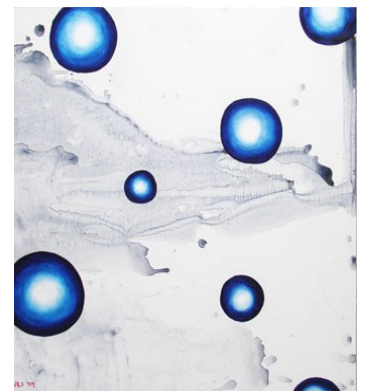
- Include self-closing valves on fume hood wash-down systems for special applications such as perchloric acid goods to limit water use.

## Water Filtration:

Filtered water, used in procedures such 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%)**



## For More Water Conservation Information

Visit our website: [www.azwater.gov/conservation](http://www.azwater.gov/conservation), or call: (602) 771-8585

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