

POOL WATER EFFICIENCY

Pools provide a fun and relaxing way to keep cool during summer months. However, if not adequately maintained, your pool could be sending water and money down the drain. Pools consume water through evaporation, leaks, cleaning, and splashing. Investing in new equipment or performing maintenance can save water, energy (for heated pools), and money.

Evaporation

One of the main causes of water loss in pools is evaporation. Reducing water loss from evaporation is the best way to reduce overall water usage in a residential pool.

Size

A pool's surface area determines how much evaporation may occur; a larger pool will lose more water due to evaporation than a smaller pool. Smaller pools can also result in lower maintenance costs. A 500 square foot pool can lose between 12,000-31,000 gallons of water annually.

Covers

Pool covers are the most effective means of controlling water loss from evaporation. Solid pool covers can reduce evaporation by over 90%! In the case of heated pools, solid covers can also save over 50% of pool heating costs.

Temperature

Water temperature impacts the evaporation rate of a pool since warmer water evaporates more quickly. In heated pools, evaporation will reduce the water temperature, this results in more energy being used to keep the pool at the desired temperature.

Features

Fountains and waterfalls add turbulence to the pool surface and increase evaporation. They can also lose water due to wind and splashing. To save water, only turn on these features when the pool is in use. You can also put these features on a timer. Turn water features off when checking for leaks.

Windbreaks

Installing a windbreak around a pool will reduce wind speed and therefore evaporation. Landscaping or other physical barriers can increase wind protection. Increasing shade in your pool area will also keep the pool cooler and reduce the impacts of evaporation. Plus, choosing drought tolerant or low water use plants will save you even more water!



Leaks

Leaks can be found in the pool liner, pump seal, pool piping, and in pipe joints.

You may have a leak if:

- Your pool is losing more than two inches of water per week
- You have wet spots near the pool or air bubbles in the water return pipeline or pump strainer
- You see chemical residue buildup (indicates a leak evaporated but left behind chalky deposits)

If you have an automatic refill for your pool, the EPA recommends shutting it off every three months to test for leaks. Automatic fill valves can malfunction and send water directly to a pool's overflow drain. Regularly confirm your fill valve is turning off properly by plugging the overflow drain and observing if the pool level rises. If it does, the valve may be stuck in the open position and need repair. Autofill functions mask leaks since they automatically replace lost pool water and prevent a visible drop in pool level.



Water Quality

Maintaining a pool's water quality reduces water loss. Over 20% of pool water use has been attributed to filter backwashes. A backwash is the process of sending water backwards through a filter to remove debris build-up. Another 20% of pool water use comes from controlling total dissolved solids (TDS), which can only be maintained by dumping portions of contaminated water and replacing it with fresh water. Keeping a pool free of debris and maintaining the water quality reduces corrosion, decreases the risk of leaks, and increases the longevity of the pool. A well-maintained pool should only need to be drained every 3-7 years to keep TDS levels down.

In Oklahoma City it is illegal to release chlorinated and saltwater pool water down storm drains or into creeks. Dechlorinate your water before draining. This can be done by allowing your pool to stand untreated for 7-10 days and testing the water's pH before draining. You can then drain the dechlorinated water to grass, turf, your garden, or another area of your property that does not create erosion or runoff into creeks or storm drains. In Oklahoma City you can also drain your pool into the sanitary sewer. Most in-ground pools have a drain line connected to the sanitary sewer.



Filtration

Using high performance filters will keep debris out of your pool and also reduce your risk of leaks. Filtration ability is rated in terms of microns. One micron is one millionth of a meter. The smaller the micron that can be removed, the better the filtration.

Using skimmers and vacuums to remove debris can reduce the load on filters and increase the time between backwashing.

Cartridge filters are the most water-efficient because they do not require backwashing. Using oversized cartridge filters can also cut down on water use because cleaning frequency is reduced.

Pool Usage

Water can also be lost due to splashing and "drag out," which is the water lost as a person exits a pool. Many modern pools are built so that the pool edges are cantilevered and divert water back into the pool. You can also reduce water loss from human activity by not overfilling your pool. Maintain four inches of freeboard, or distance from the level of the pool water to the top of the overflow or pool deck. This will prevent water loss when there is activity in the pool.

DIY Bucket Test

Check for leaks!

1. Have your pool filled to its standard level. Using a 5-gallon bucket, fill it 1 inch from the top with pool water. Turn off any auto-fill devices.
2. Immerse the bucket in the pool so the bucket's water level is a little higher than the pool's water level.
3. Mark the water level inside the bucket and the water level outside the bucket.
4. Come back in 24 hours to compare the inside water level to the outside water level. If the water level outside the bucket has dropped more than the water level inside the bucket, you likely have a leak.
5. Make a note to check the bucket at exactly the 24 hour mark, as waiting longer than this can give inaccurate results. If it rains you should start over when there is a clear forecast.



Did you know?

Swimming pools are not as wasteful as you may think. According to Stanford, pools (when a cover is used) are more efficient than the turf grass they replace. An irrigated lawn required 0.6 gallons of water per square foot per day, compared to 0.3 gallons for a pool.