

SWIMMING POOL FILTER



Swimming pool filters are crucial for maintaining clean, clear, and safe water in your pool. There are three main types available: sand, cartridge, and diatomaceous earth (DE) filters, each with their own pros and cons in terms of filtration capabilities, maintenance requirements, and cost.

How pool filters work

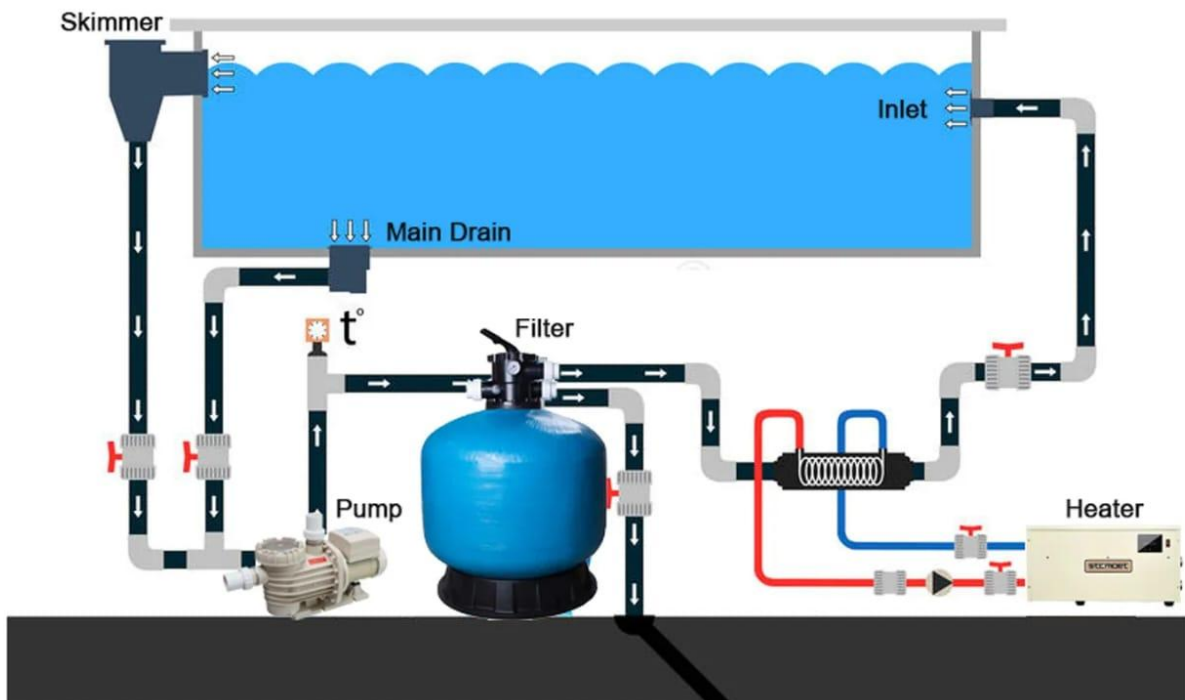
Regardless of the type, pool filters operate on the same basic principle: a pump circulates the pool water through the filter, where a filter medium traps debris and contaminants. Clean water then returns to the pool.

Sand filters: Utilize a bed of specially graded sand (typically silica) to capture particles down to 20-40 microns. The water flows downwards through the sand, leaving behind dirt and debris. Sand filters are generally the most affordable and low-maintenance option, requiring backwashing (reversing water flow to clean the sand) every few weeks and sand replacement every 5-8 years.

Cartridge filters: Employ a pleated filter cartridge, typically made of synthetic fabrics, to trap particles as small as 10-20 microns. They are more efficient than sand filters but require more frequent cleaning. Maintenance involves removing the cartridge and hosing it down thoroughly every 2-3 weeks, with deeper cleaning involving soaking in a cleaning solution a few times per season. Cartridges need replacement every 1-3 years.

Diatomaceous earth (DE) filters: Use a fine powder made from fossilized diatoms to capture the smallest particles (3-5 microns), leading to superior water clarity. They require backwashing like sand filters, but you need to add new DE powder to recharge the filter after each backwash. Additionally, DE filters need annual dismantling and cleaning of the filter grids/fingers.

Pool Water Circulation System



SWIMMING POOL CHEMICAL



TCCA 90,

Trichloroisocyanuric Acid 90%, is a powerful chemical widely used in various applications, primarily for disinfection and water treatment.

Chemical properties

- **Chemical Name:** Trichloroisocyanuric Acid.
- **Formula:** $C_3Cl_3N_3O_3$.
- **Appearance:** White crystalline powder, granules, or tablets with a strong chlorine odor.
- **Effective Chlorine Content:** Approximately 90%.
- **pH** (1% solution): 2.7 to 3.3.
- **Solubility:** Moderately soluble in water, releasing chlorine slowly.
- **Stability:** Stable under normal conditions but decomposes when heated, releasing toxic gases.

Granular

SUBMERSIBLE PUMP



A submersible pump is a device that is designed to be fully submerged in the fluid it's pumping, such as water from a well, borewell, or reservoir. It works by pushing the fluid towards the surface, rather than relying on creating a vacuum like other pumps.

Key features and advantages

Self-priming: As it's submerged, it doesn't require manual priming to remove air from the pump or suction line.

Efficiency: It's highly efficient because it avoids the need for suction head, reducing energy consumption. It is also designed to be energy-efficient by several manufacturers.

Cavitation prevention: Submerging the pump eliminates the risk of cavitation, a problem caused by vapor bubbles forming in the fluid.

Quiet operation: Operating underwater significantly reduces noise compared to pumps installed on the surface.

Versatility: Submersible pumps are used in a variety of applications, including household water supply, agriculture, sewage treatment, dewatering, and industrial fluid transfer.

Durability: Many pumps are constructed from corrosion-resistant materials like stainless steel for longevity and performance in challenging conditions.