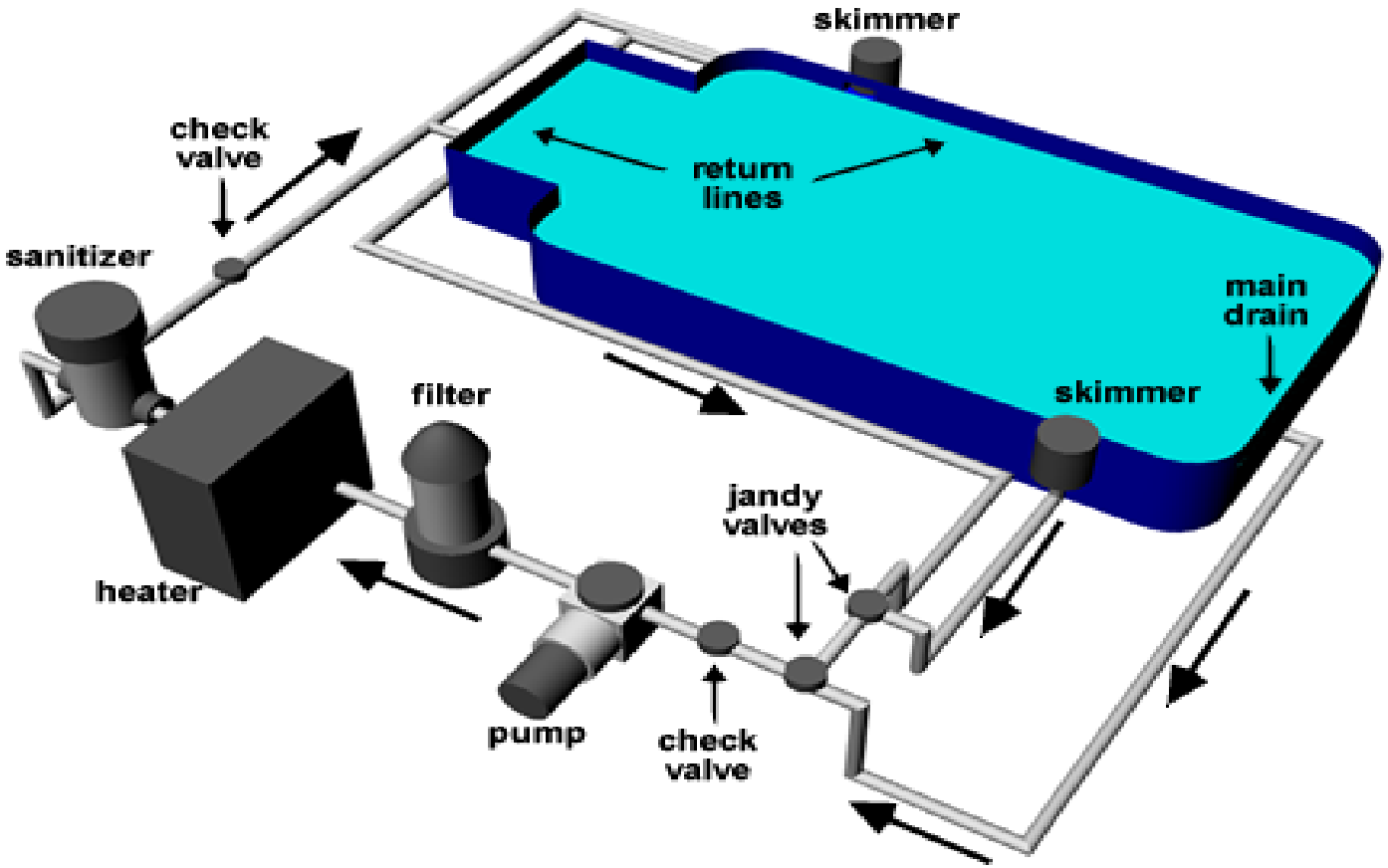
INTRODUCTION TO BASIC POOL EQUIPMENT

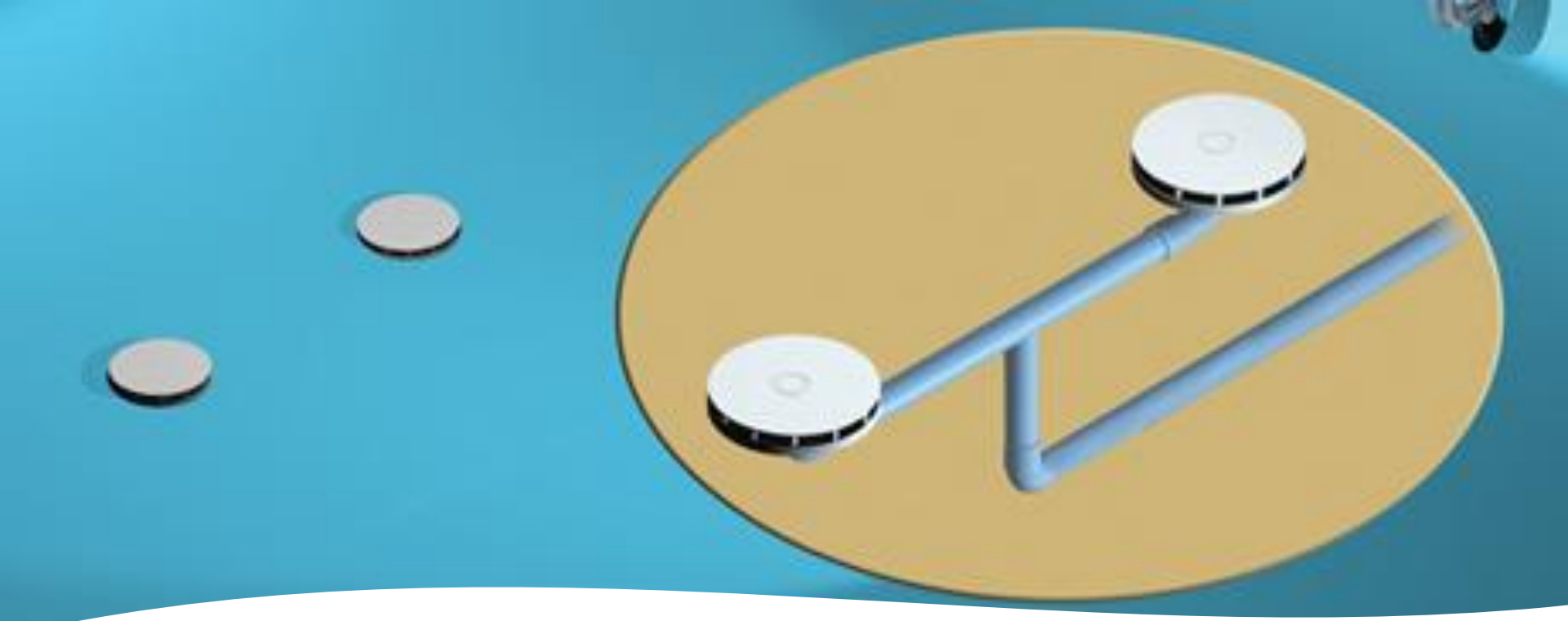
DOH/Water Recreation Program

Overview

- The flow of water
- Basic pool configuration
- Basic pool mechanical equipment and components

Flow of Water

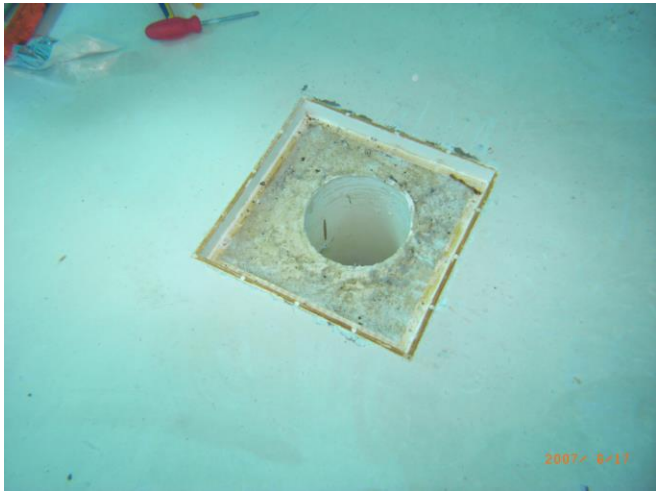


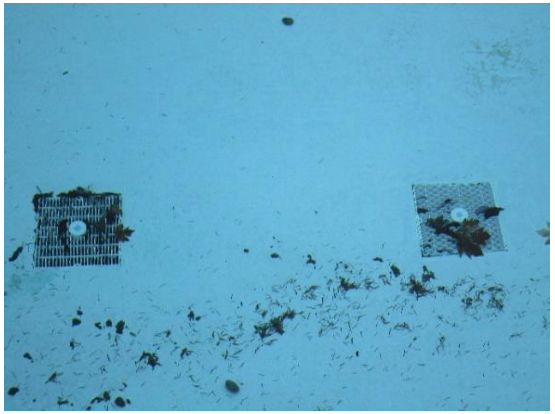


Main Drains

- Transfers water from pools
- Virginia Graeme Baker Pool and Spa Act
- Contact your local health jurisdiction prior to making any changes

Examples



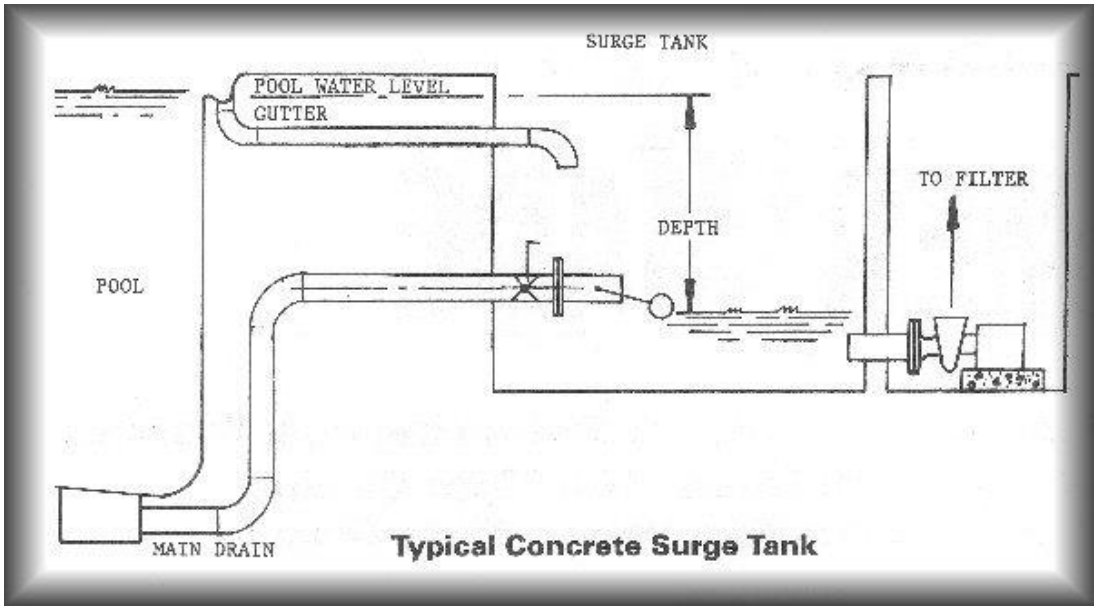


Gutters

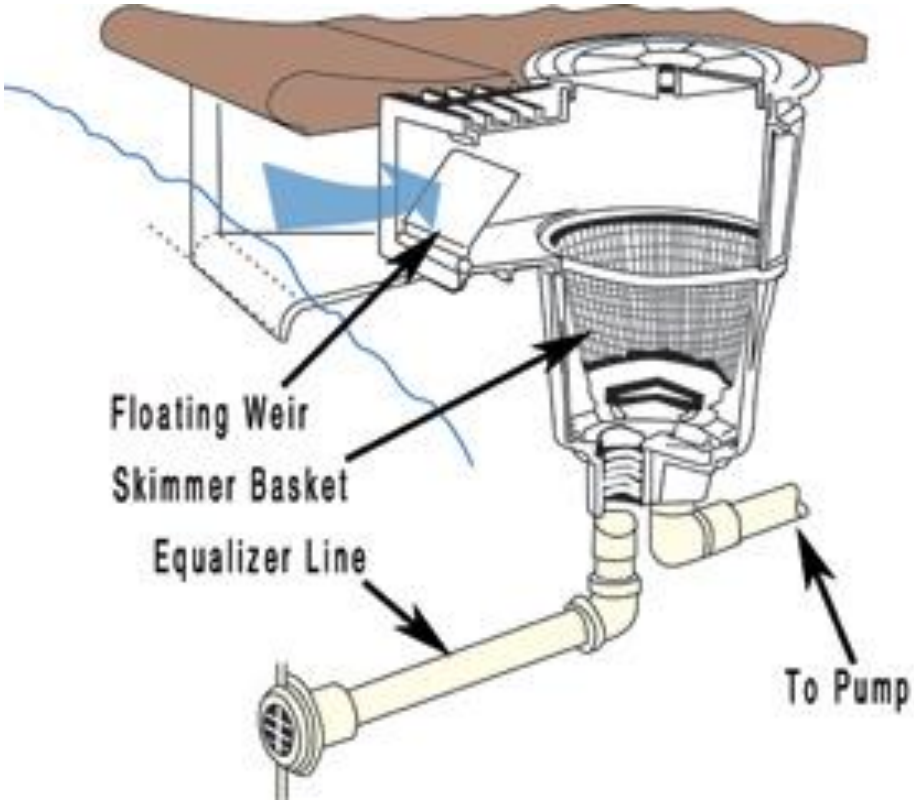
- Perimeter circulation system
- Required for swimming pools 2,500 square feet or more in Washington
- Surface water is displaced into the gutter then travels from the pool to a surge tank

Surge Tanks

- Also known as collection tank or balancing tank
- Water is displaced when bathers enter the pool
- Usually installed between the main drain system and recirculation pump



Surface Skimmers



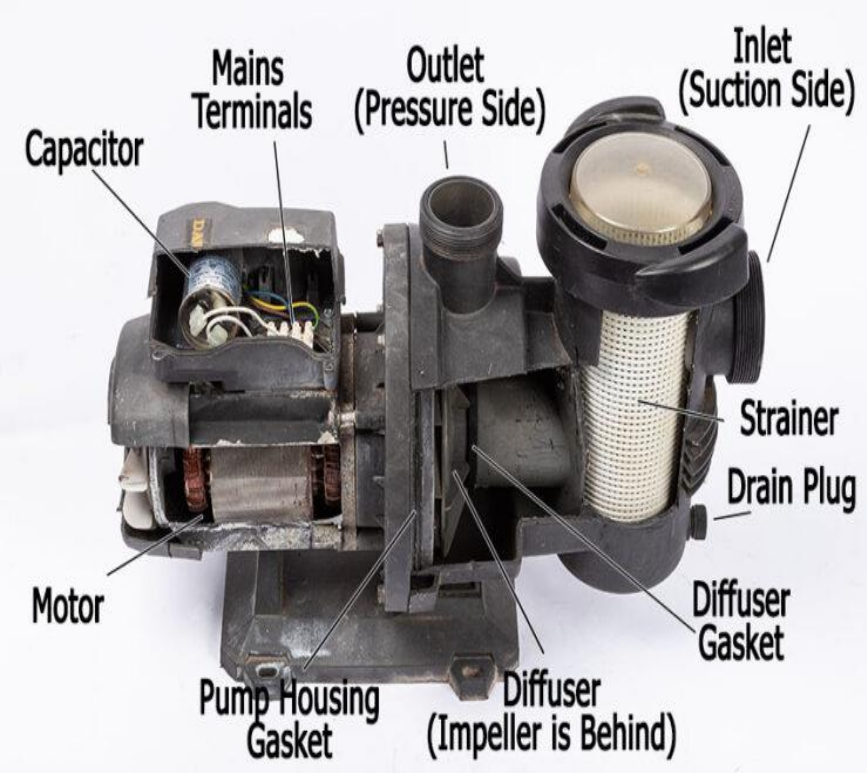
Pump: The main feature of circulation

1. Pulls water from the pool through
   - skimmers or gutters and main drains

2. Pushes water through
   - filter(s)
   - Heater (not required)
   - Disinfectant equipment

3. Returns water to the
   - return inlets

Components of a pump



- Pump housing
- Hair and lint strainer
- Impeller
- Motor (including shaft)
- Mechanical shaft seals

- *Do not replace your pump or pump motor without checking with your local health department

Pool Water Filtration

Sand filtration

- Oldest type
  - Replace the sand every 5 to 15 years.

Cartridge filtration

- Newest form
  - Clean filters per manufacturer's recommendation.

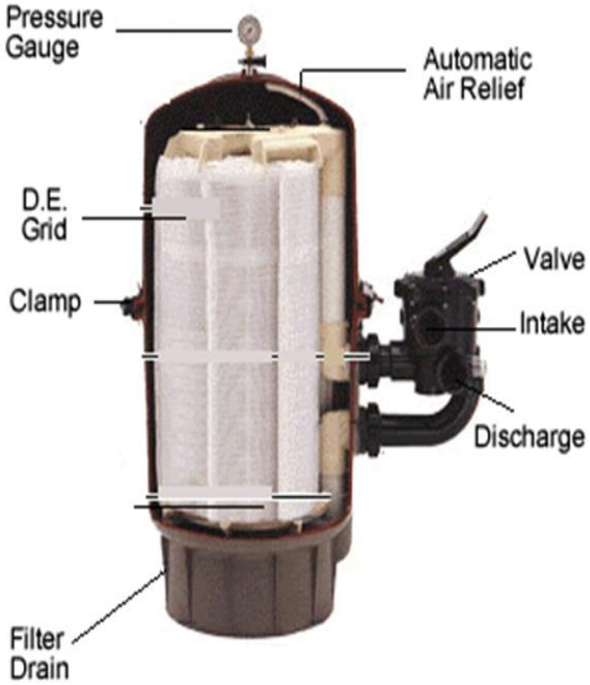
Diatomaceous earth (D.E.)

- Most efficient type
  - removes the smallest particle size of any pool/spa filtration device

Different Types of Filters

Sand **Cartridge** **D.E.**

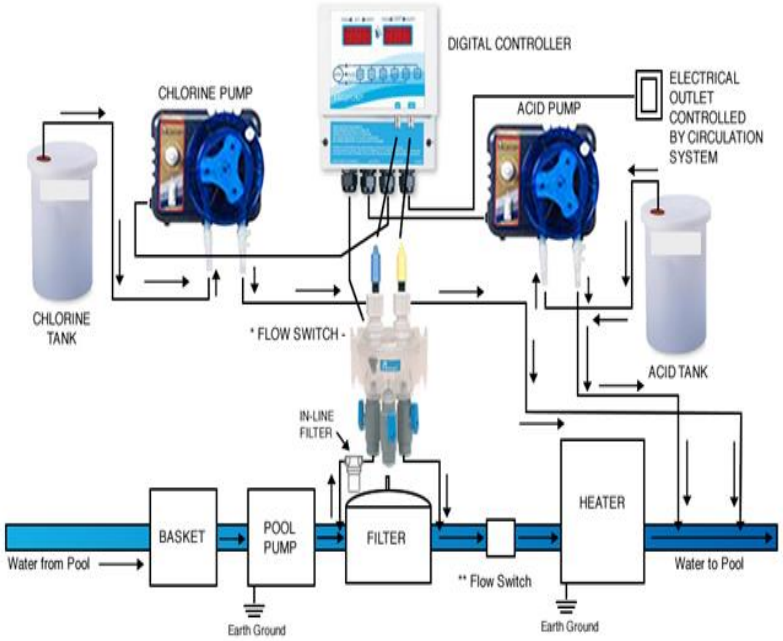
Inside of a Filter



Heaters

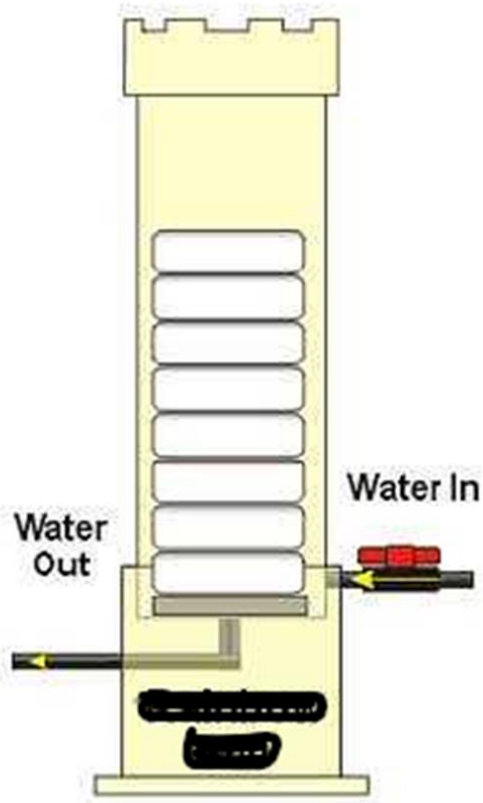
- Water temperatures should not exceed 104° F
- Temperature controls should be protected against unauthorized users
- Install before chemical injection
- Not a required piece of pool equipment
- **Contact your local health department before making any changes to your recirculation system.**

Disinfectant Feeder Types



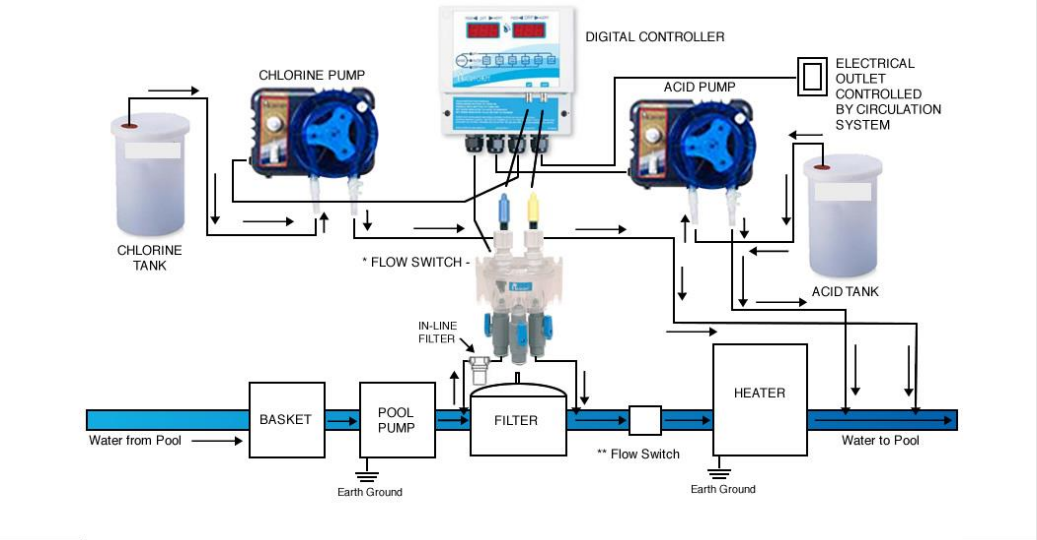
Disinfectant Type	Feeder Type
Trichlor (Tablets)	Erosion Feeder
Sodium hypochlorite (Liquid)	Chemical controller + Feeder pump for liquid
Calcium hypochlorite (Tablets, briquettes)	Chemical controller + Spray erosion feeder
Salt chlorine generator	Chemical controller + Salt chlorine generator

Erosion Feeders



- Water goes in from one end
- Tablets get dissolved slowly
- Water goes out from the other end
- Dial control (valve) allows flow adjustment
- Dial control and # of tablets in the feeder allow dose adjustment
- Smaller tablets (more surface area?)

Automatic chemical controller/feeders Safety



- The controller must not activate the chemical feed pumps when there is no flow
- Chlorine + Acid = Chlorine Gas
- Interlock and flow sensor are some of the techniques used, but not perfect
- Chlorine and acid containers are right next to each other

Return Inlets

- Flow patterns provide equal distribution of chemicals and temperature throughout the pool

- Location
  - Wall
  - Floors
  - Combination of both

- Essential in eliminating dead or stagnant areas

- Replace if
  - Missing
  - Sharp edges or extensions develop

Questions?

Contact

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