INTRODUCTION TO BASIC POOL EQUIPMENT

DOH/Water Recreation Program
Overview

- Basic pool configuration
- The flow of water
- Basic pool 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
Gutters

- Perimeter recirculation 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 the filter

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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 Sand 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

<table>
<thead>
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<th>Disinfectant Type</th>
<th>Feeder Type</th>
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<tr>
<td>Trichlor (Tablets)</td>
<td>Erosion Feeder</td>
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<tr>
<td>Sodium hypochlorite (Liquid)</td>
<td>Chemical controller + Feeder pump for liquid</td>
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<tr>
<td>Calcium hypochlorite (Tablets, briquettes)</td>
<td>Chemical controller + Spray erosion feeder</td>
</tr>
<tr>
<td>Salt chlorine generator</td>
<td>Chemical controller + Salt chlorine generator</td>
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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?
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