

An underwater photograph of a swimming pool. The water is clear and blue. In the background, the pool's edge is visible, featuring a blue tiled border. A metal ladder is attached to the wall. Sunlight filters through the water, creating a dappled light effect on the pool floor.

# TRENDS in AQUATICS

Presented by:  
Bob LaDuke  
Horizon Pool Supply



# OVERVIEW

- Back of house/out of site
  - Ultra-Violet Light System
  - Regen Media Filters
- Flooring
- MAHC
- Q & A



# OUTCOMES

- What UV Light does for our pools and spas
  - Know difference between Medium Pressure and Low Pressure Systems
- Understand benefits of REGEN Media filters compared to sand filters
- New flooring and surface options for indoor and outdoor pools
- MAHC – What is it?



# POP QUIZ # 1

What are the two (2) chemical reactions we need chlorine to do in our pool and/or spa water?



- Disinfect – kill every living thing in the pool but our swimmers
- Oxidize – destroy/burn-up non living contaminants such as bather waste, algae, leaves etc (poor oxidation will impact water clarity)

Which is easier to do/which chemical reaction requires less chlorine?

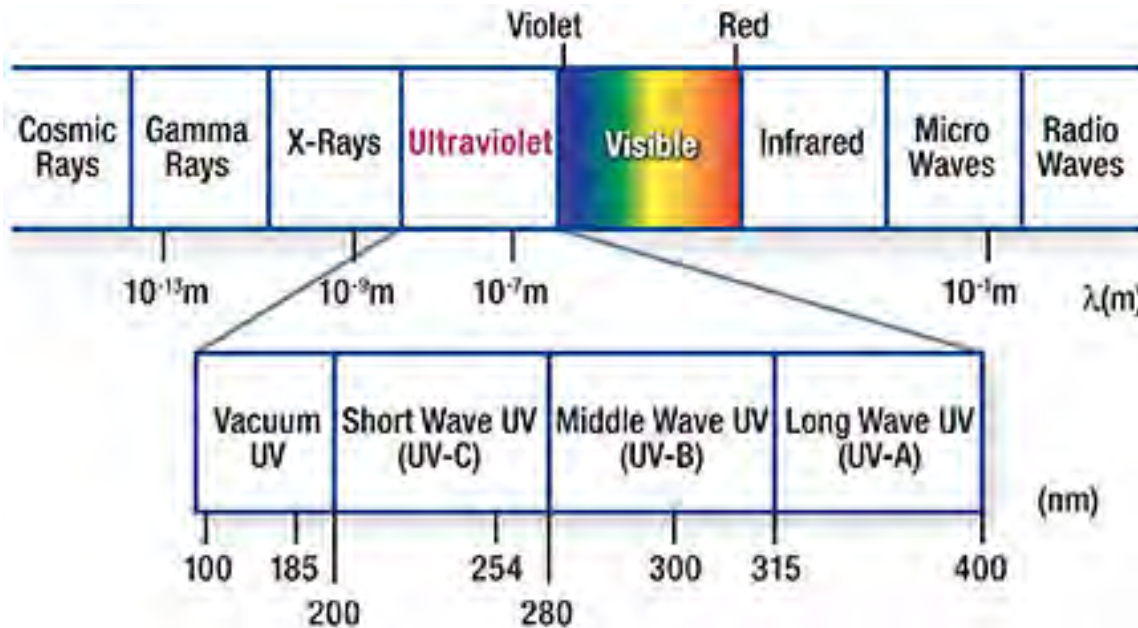
# UV Light Systems

- UV Light is a VERY POWERFUL form of energy with two IMPORTANT benefits:
  - UV Light deactivates (think kills) disease causing pathogens in our water much faster than chlorine.
  - UV Light photo-oxidizes combined chlorine from our water



# There Are Two (2) Types of UV Light Systems

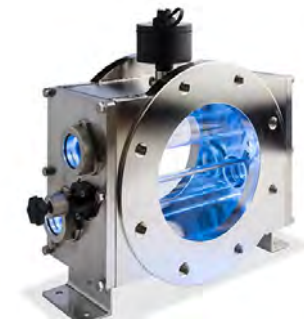
---



- MEDIUM PRESSURE and LOW PRESSURE
- “Pressure” refers to the pressure of gas created inside the UV Lamp. It is inconsequential to this discussion
- Both Generate Light Within The UV-C Spectrum

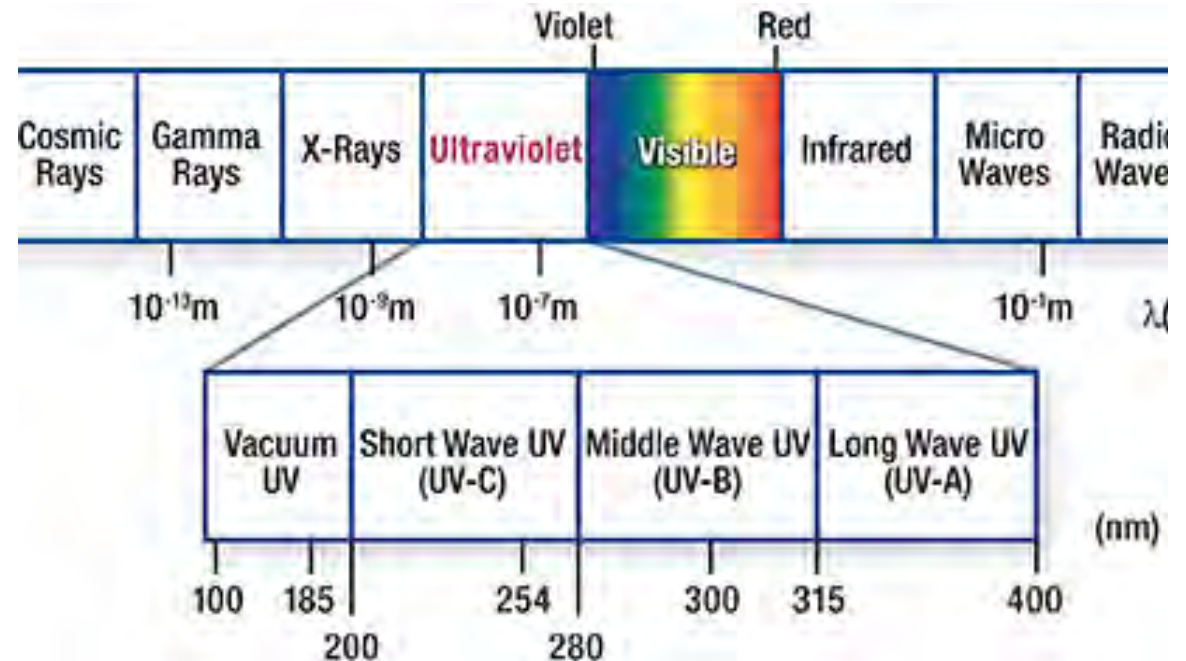
# MEDIUM PRESSURE UV LIGHT

- Generates A Very Broad Band of Light Within UV-C Spectrum
- Maximum Germicidal Effect Of Illness Causing Organisms (de-activation power) Occurs between 200nm – 280nm
- Different Types of Chloramines are destroyed At These Different Wavelengths So The Argument Is You Get Better Combined Chlorine Control With a Medium Pressure Unit. (I think that's a fair argument)



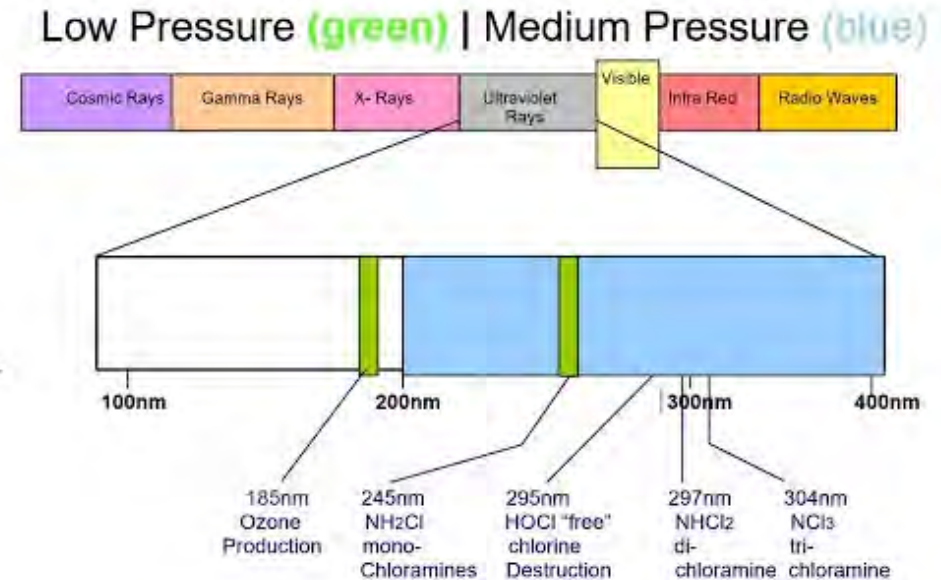
# MEDIUM PRESSURE UV cont.

- These Lamps Are Called 'Polychromatic' Since They Release This Broad Band of UV Light
- They Require A LOT of Power.
- These ARE NOT Plugging-in To A 110v Wall Outlet



# LOW PRESSURE UV LIGHT

- Generates A Specific Wavelength Of UV Light Within The UV-C Spectrum
- That 245nm WILL Photo-Oxidized Mono-Chloramines From The Water But Will Struggle With Other Chloramines
- Remember – Max Germicidal Effect From UV Light Occurs Betw 200nm – 280nm So We Get The Benefit Of This From A Low Pressure System.



# LOW PRESSURE UV LIGHT cont.

- These Lamps Are Called 'Monochromatic' Since They Generate A Single (Specific) Band of UV Light – 245nm
- A Low Pressure Unit Requires Multiple Lamps
- They DO NOT Require A Lot of Power.
- These WILL Plug-in To A 110v Wall Outlet



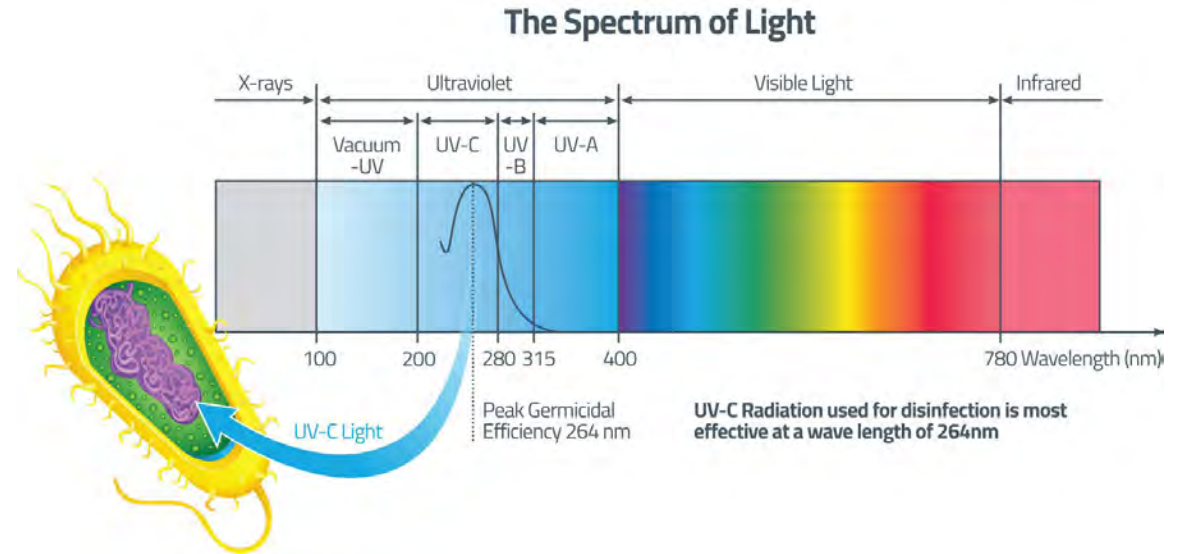
# POP QUIZ # 2

What's The Benefit/Reasoning For a UV Light System Installed On An Outdoor Pool/Splash Pad/Wading Pool?



# SUMMARY: UV Light

- Medium vs Low
- MP: Generates a Broad Spectrum of UV Light
- LP: Generates a Single Specific Wavelength of UV Light
- MP: Cost Can Double That of a Comparably Sized LP Unit
- LP: Electrical Requirements are Minimal Compared to MP
- BOTH: Size of Unit Is Based Upon Flowrate of Body Of Water





# REGENERATIVE MEDIA FILTRATION

---

- While Available For Many Years, This Type of Pool Filter System Is Rapidly Becoming The First Choice When Building a New Facility or Renovating an Existing Site.
- All Are Designed To – When Compared to Sand Filters:
  - Filter Down to a Smaller Micron
  - Keep the Water in the POOL!
  - Save Space

# POP QUIZ # 3

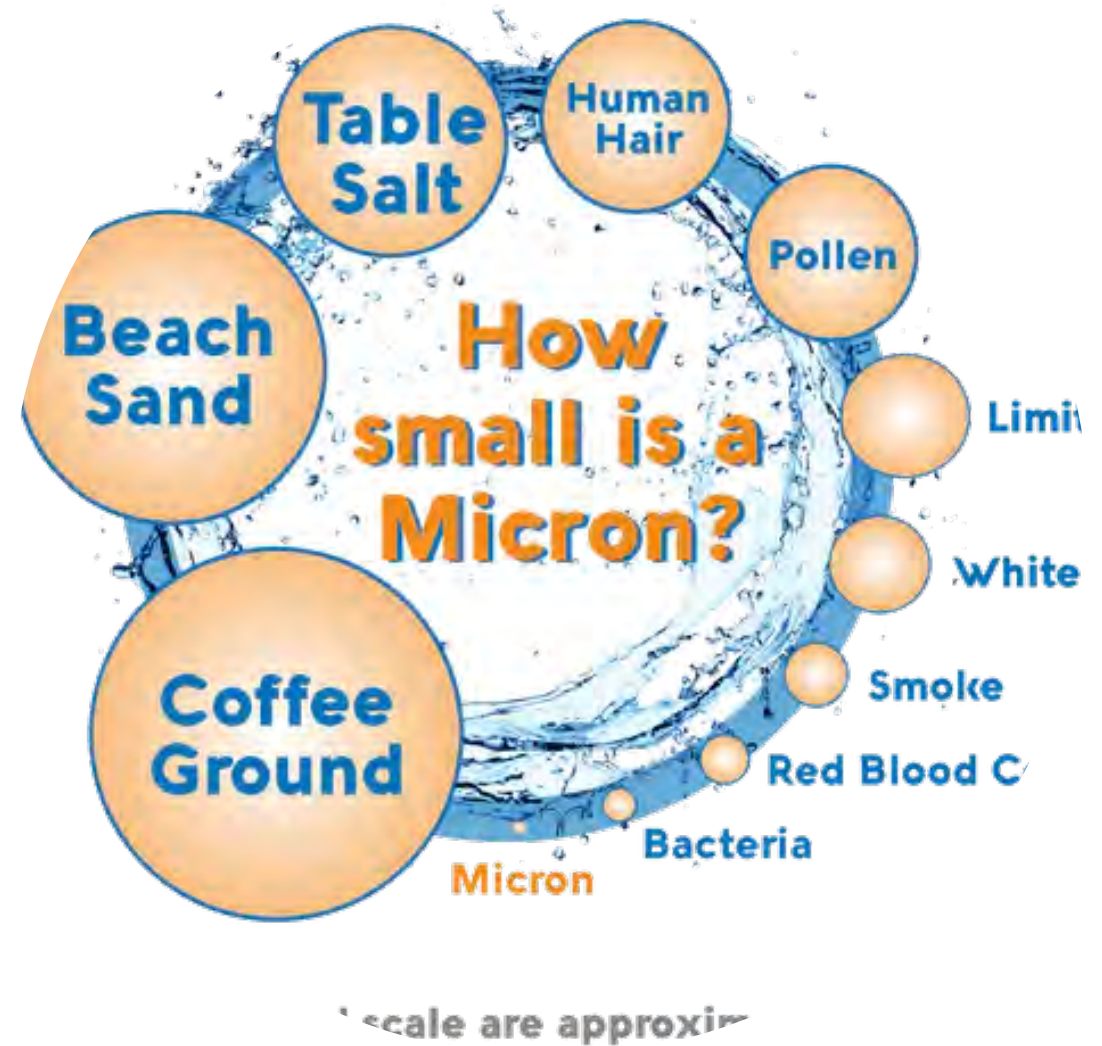
What's The Role of a Pool Filter?

- It Filters Out the BIG Stuff, But Lets the Little Stuff Get Thru



# REGEN Media Filters

- Will Filter Down to Two (2) Microns
  - Sand Filter: Around Twenty (20) Microns
  - A Micron is one-one thousandth of a millimeter
    - Human Vision: 25 Microns
    - Grain Of Salt: 20 Microns
    - **Average Bacteria: 2 MICRONS**

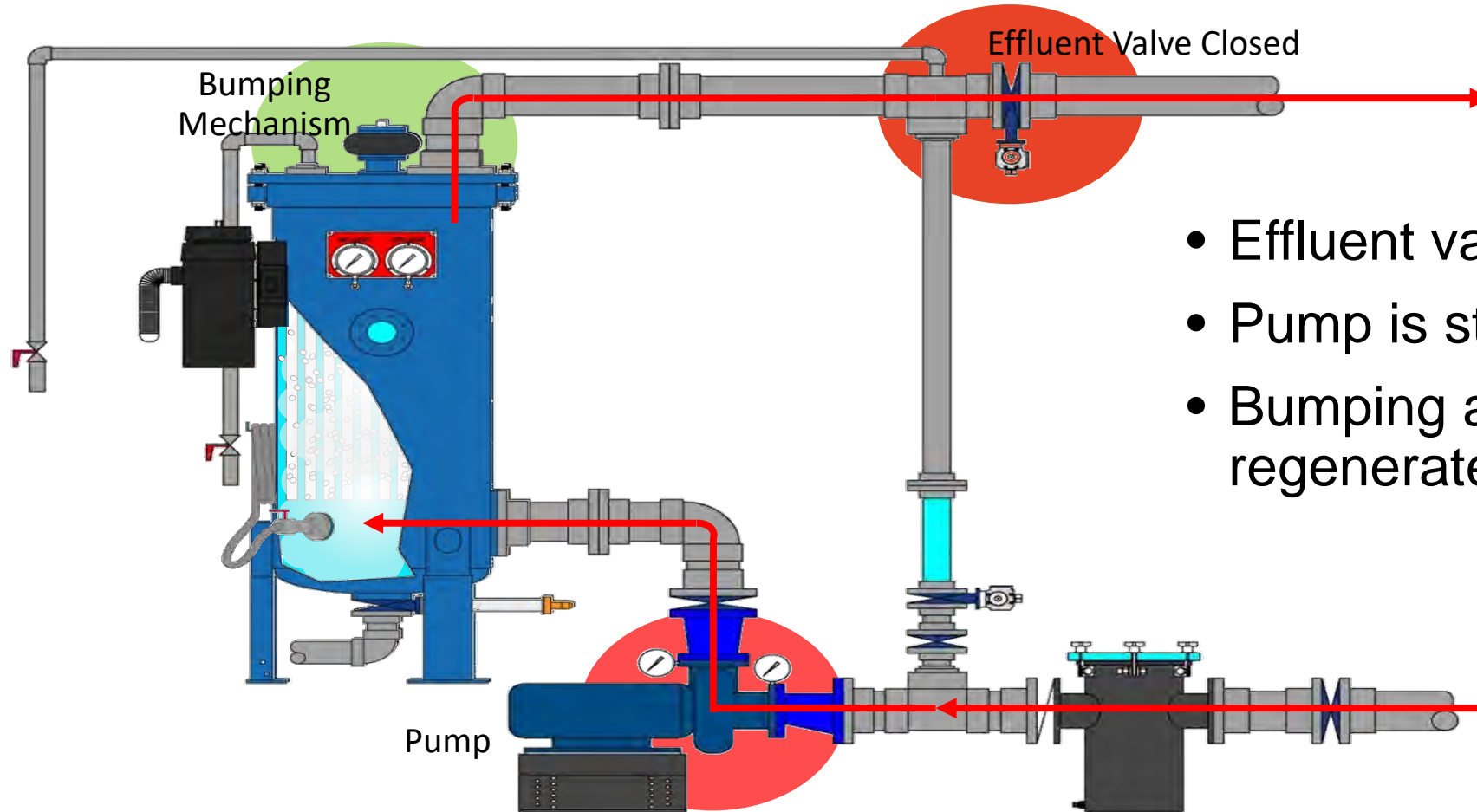


# How Does a REGEN MEDIA Filter Work

- Suspended Filter Elements are Coated with a Very Thin Layer of Perlite, a Synthetic Generated DE Powder
- Water Enters The Filter From the Bottom
- Perlite Media Captures/Traps Particulates by the Outer Surface of the Media



# Daily, The Filter Is REGENERATED



- Effluent valve is closed
- Pump is stopped
- Bumping action is initiated to regenerate filter media

# REGEN Filter cont.

- Daily 'Bump' Redistributes The Perlite Media Until It Re-adheres to the Suspended Filter Elements
  - Closed-Loop Process So No Filter Media Gets Sent To The Pool
  - The 'Bump' Lowers Pressure Differential and Extends Life of Media
  - Outdoor Pool Media Life – 6 to 8 Weeks
  - Indoor Pool Media Life – 8-12 Weeks
  - Cleaning The Filter (Changing the Media) Requires the Volume of the Tank to be Dumped Twice.

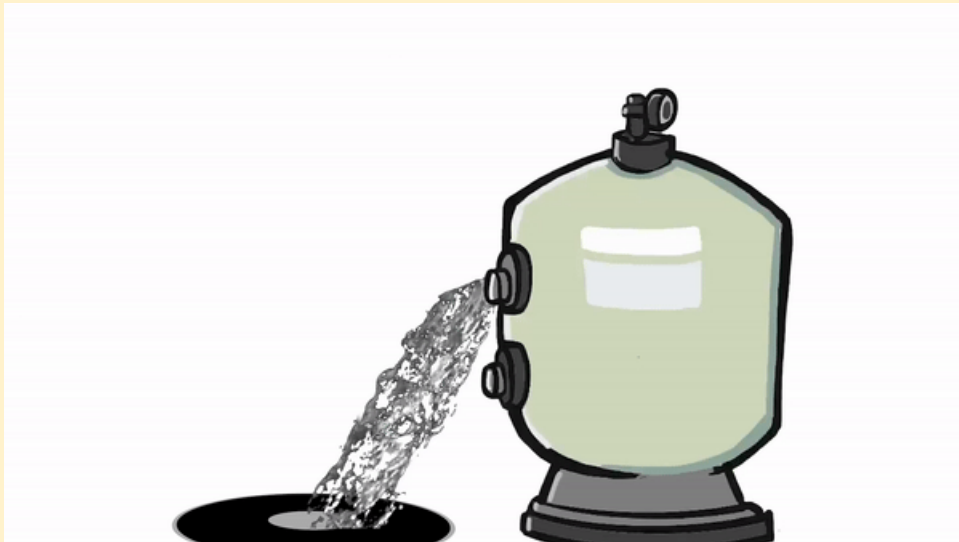


# Backwashing vs Bumping

- No Water Sent to Drain As With Backwashing

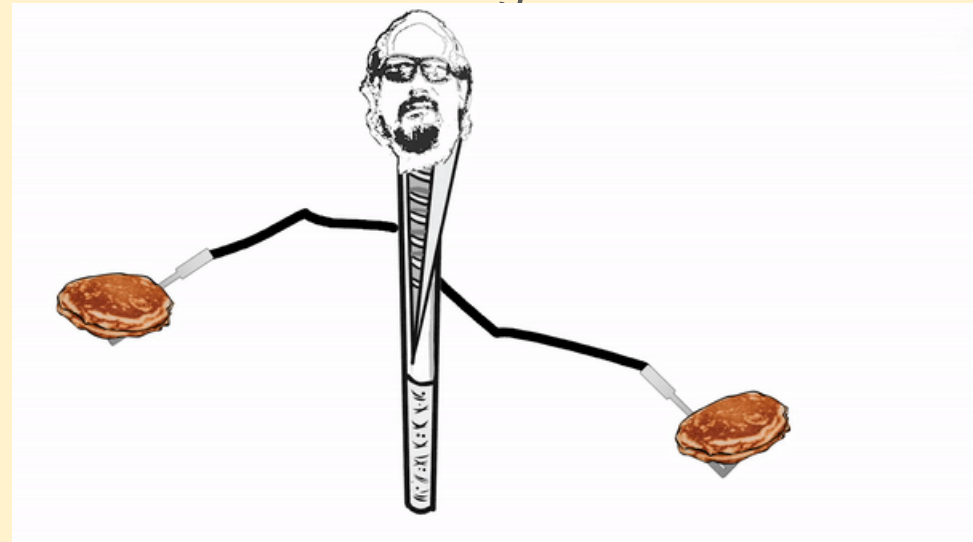
- BACKWASHING (Sand)

- Reverse flow of water through sand bed
- Expand bed to fluff & loosen debris
- Send dirty backwash water to drain



- FILTER BUMPING

- Tire on top of filter pushes air into the filter
- Dislodges accumulated layer of perlite media
- Recoat tubes by “flipping the pancake”
- No water discharged to sewer/drain





## SUMMARY

- REGEN Media Filters:
  - Filters Down to a Smaller Micron
  - Water Savings (and costs associated with) are **SIGNIFICANT**
    - Cost of Water
    - Cost of Energy to Heat Water
    - Cost of Chemicals to Treat Water
- Cost Comparison to a Similar Sized Sand System
  - 25% - %50 Higher



# FLOORING

- Most Pool Deck Surfaces Are:
  - Concrete
  - Tile
  - Epoxy
- Most Pool Floor Surfaces Are:
  - Plaster
  - Tile
  - Painted Concrete

---

# Rubber Non-Slip Flooring Option

- Slip/Skid Resistant Flooring – the number one injury at any/all pool facilities is slip/fall
- Can Be Installed on the Pool Deck, As the Surface For a Spray Pad and Installed as the Pool Surface in Shallow Water Wading Pools or Activity Pools



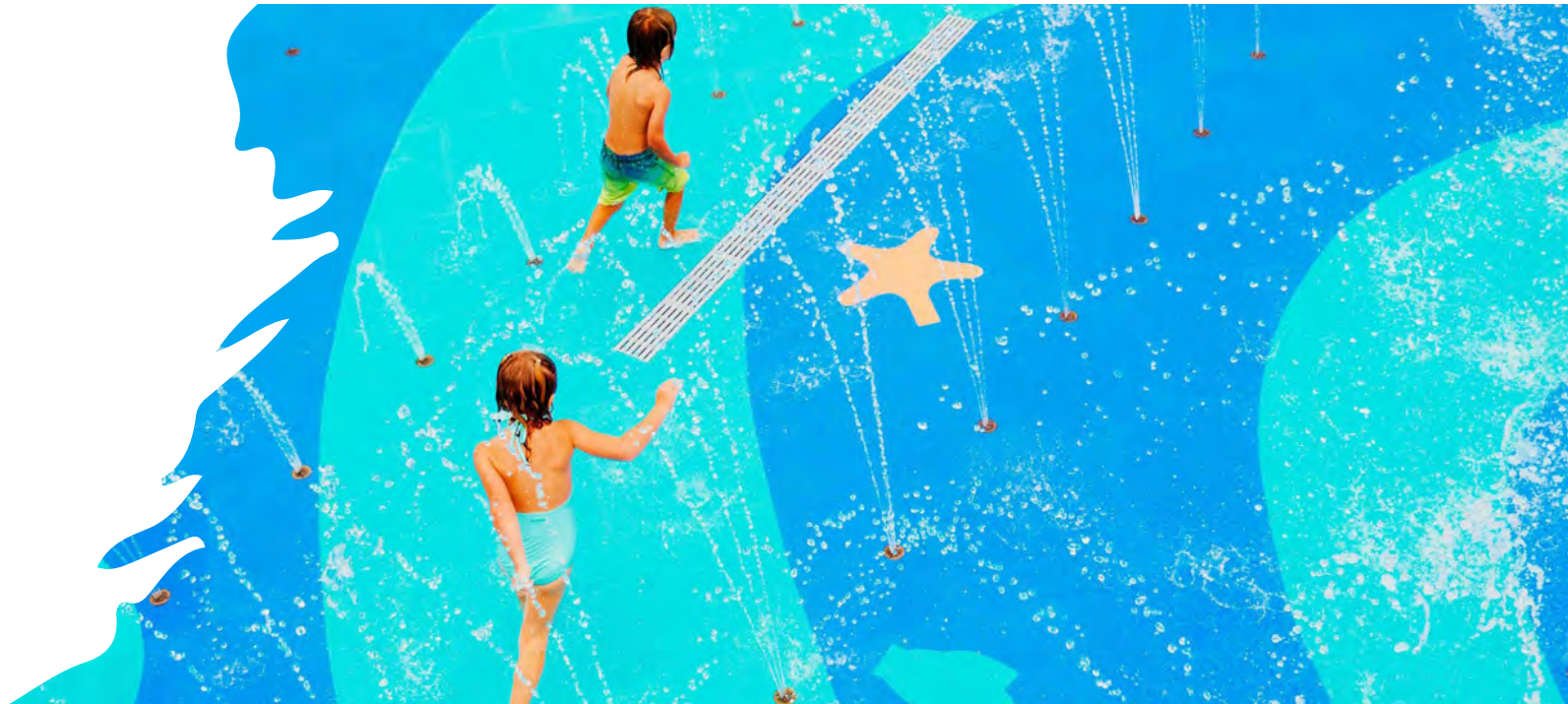
# RUBBER FLOOR cont.

- Modular In Design.
- Individual 'Tiles' Can Be Replaced if/When Needed
- Can Be Installed Outdoors...We Are Watching/Monitoring This Closely During The Off-Season
- Depth Markers Are Part of The Flooring



# Rubber Floor cont.

- Very Colorful Design Options
- Been available for many years but showing major improvement on installation and maintenance



# The Final Slide

- 
- Questions?
  - Comments?
  - [bob@horizonpoolsupply.com](mailto:bob@horizonpoolsupply.com)

