

# WHAT IS FILTRATION

WHY IT'S NEEDED

# AUTOMATIC FILTER

## APPLICATIONS

- Parks and recreation fields
- Housing developments
- Large private homes
- Commercial landscape
  - Shopping malls, business parks, sports fields, schools and colleges, military bases
  - Golf courses



# WHAT IS FILTRATION

## WHY DO YOU NEED IT

- Remove suspended solids from the water (mechanical filtration)
- Maintain proper operation of irrigation system
- Protect the dripper and the irrigation system from clogging
- Allows the irrigation system to operate optimally and lengthens its life



# WHY GOOD FILTRATION IS IMPORTANT

- Water quality is getting worse throughout the USA
- Ponds, lakes and reservoirs with high algae and organic material have become common sources of water
- Reduces maintenance of sprinklers, valves, and drippers



# MANUAL OR AUTOMATIC FILTER?

## MANUAL

- Only on clean water
- Otherwise, filter will never be cleaned on time

## AUTOMATIC

- Always cleans the filter on time
- Keeps drippers and sprinklers from clogging
- Maintains good pressure in your system
- Maintains good uniformity



Manual Disc Filter

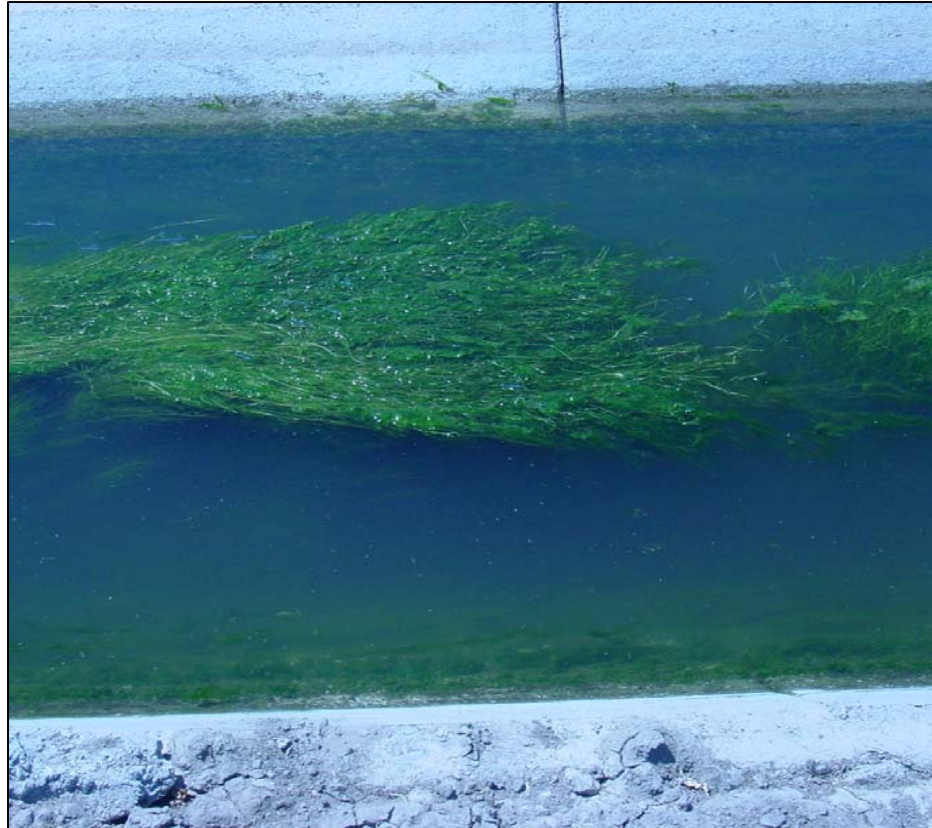


Automatic Disc Filter



# DIRTY CANAL WATER

Water contains high levels of algae, organics and sometimes moss

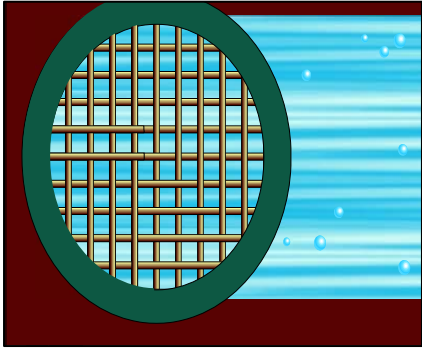


# UNFILTERED SURFACE WATER

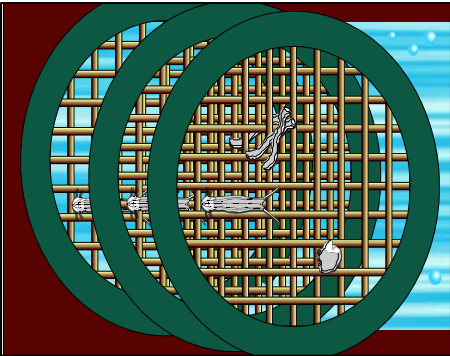


- Debris has irregular shapes - long and skinny, soft and compressible
- Depth filtration provides the highest quality of filtration for this type of water

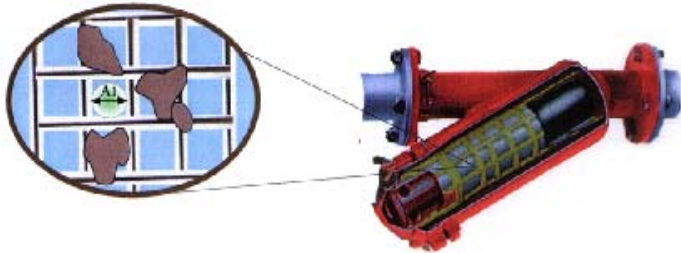
# THREE TYPES OF FILTRATION



Single Layer Filtration



Depth Filtration



Screen Technology



Sand Media



Disc Technology





# FILTER SELECTION GUIDELINES

(RULE OF THUMB)

WATER SOURCE	RECOMMENDED FILTRATION
Well Water	Disc, media or screen
▪ With heavy sand (>3ppm)	Hydrocyclone, disc, media or screen
▪ With Iron or manganese	Disc or sand media filter with chlorine
Surface Water	Depth filtration – disc or sand media
Potable Water	Disc or screen
Reclaimed Water	Disc or media

# KNOW YOUR WATER SOURCE

## TYPE OF WATER

- Potable
- Pond or reservoir
- Well
- River or canal

## WATER QUALITY

- Good
- Average
- Poor
- Very poor



# GOOD WATER QUALITY

- Municipal supply
- Well water from a clean aquifer
  - No sand
  - No iron or manganese



# AVERAGE QUALITY WATER

- Wells with small amounts of sand (< 2 ppm)
- Clear surface water
  - Lakes
  - Ponds
  - Reservoirs
  - Canals





# POOR WATER QUALITY

- Well water from a poor quality aquifer ( $> 2$  ppm)
- Surface water in hot climates with increased biological growth and no chemical treatment
  - Lakes, ponds, rivers and canals

# VERY POOR WATER QUALITY

- Well water with greater than 10 ppm of sand
- Rivers and muddy canals
- Lakes and ponds with severe runoff deposits
- Raw municipal wastewater



# STRENGTHS AND WEAKNESSES

## THREE MAIN TYPES OF FILTRATION TECHNOLOGIES

- Sand media
- Screens
- Discs



**Galaxy Disc Filter**



**AGF Sand Media Filter**



**Scan-Kleen Screen Filter**

# SAND MEDIA FILTERS

## STRENGTHS

Depth filter can trap dirt

Algae and organic material

Iron (with chlorine acid or aeration)

Surface water

## WEAKNESSES

Large footprint

Requires assembly

Long backflush cycle

Need to change or add sand

Channeling can occur





# AUTOMATIC SCREEN FILTERS

STRENGTHS	WEAKNESSES
Small footprint	Less effective on surface water (algae)
Good on clean well water	Screens can pass organic debris
Portable	Screens can tear
Short flush cycle	Rust problems

# AUTOMATIC DISC FILTERS

## STRENGTHS

Depth filtration

Good for organics and algae

Short backflush cycle

Made of non-corrosive materials

Small footprint

Portable

## WEAKNESSES

Backflushing requires higher pressures (40 psi vs. 35 psi for screen filters)

During flush may require pressure sustaining valve to provide 40 psi



# SUMMARY

- Good Filtration is important and will reduce maintenance.
- Know your water source and water quality.
- Depth filters protect your irrigation system better than screen filters for all surface water sources.
- Automatic Disc Filters provides depth filtration with many benefits such as:
  - Small footprint
  - Easy installation
  - Corrosion Resistant

# THANK YOU