

**M**iller-Leaman's state-of-the-art automatic **Turbo-Disc Filter** sets the standard for cooling tower and chilled water filtration. The modular design is available in single-pod and multiple pod models. Systems are engineered with and without pumps, for full-stream, side-stream and slip-stream applications. Using a fraction of the backwash water used by conventional sand filters, the Turbo-Disc is effective in removing particulate (sand, sediment, dirt, scale) and light airborne contaminants (cottonwood seed, algae, etc.), both of which are commonly found in cooling tower water.

Automatic

# Turbo-Disc

Filter

Full-Stream

Side-Stream

Slip-Stream

### Benefits of the Turbo-Disc Filter:

- Improves heat transfer resulting in a reduction in energy costs.
- Cuts maintenance costs dramatically by decreasing downtime for cleaning and repair.
- Complements chemical and/or non-chemical water treatment program, therefore reducing the total cost of water treatment.
- Increases lifespan of downstream equipment such as heat exchangers, chillers and process equipment (i.e. injection-molding machines).



2-Pod Side-Stream System,  
complete with 150 GPM Pump



16-Pod, 1,600 GPM Full-Stream System,  
complete with Booster Pump

### Turnkey Systems Include:

- Automatic Filters / Disc Cartridges
- Stainless Steel Inlet / Outlet / Backwash Manifolds
- Automatic Backwash Valves / Solenoids
- Miller-Leaman **Maxim** Backwash Controller, complete with differential-pressure switch-gauge
- Stainless Steel Frame and Skid Assembly
- Available with or without Pump and/or Booster Pump
- Motor Starter(s)– Single Point Electrical Connection
- Outlet Control Valve (on multiple pod systems only)
- Air-Override Feature (air enhances backwash efficiency)

### Optional Equipment:

- Isolation Valves
- Pump Pre-Strainer
- Air compressor (if compressed air is not available)
- Sweeper Piping Eductor Nozzles
- Switching Valves to Filter Multiple Sumps
- Water Disinfection Equipment



10-Pod, 800 GPM Side-Stream System,  
complete with Main Pump and Booster Pump

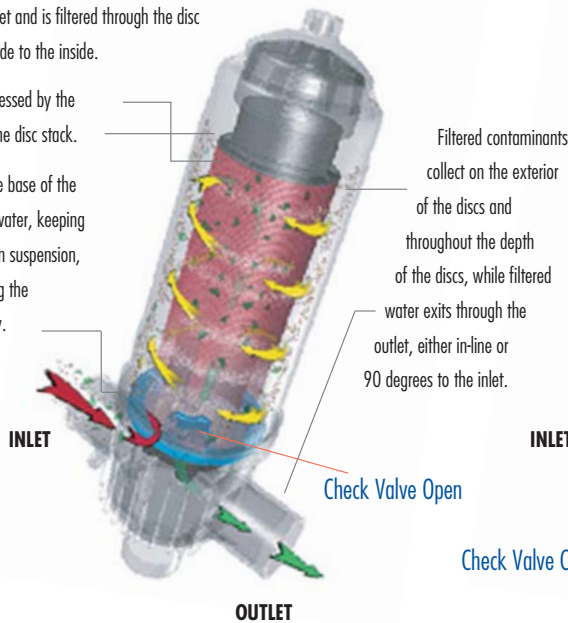
# A U T O M A T I C F I L T E R O P E R A T I O N

## FILTRATION MODE

Water enters the inlet and is filtered through the disc stack from the outside to the inside.

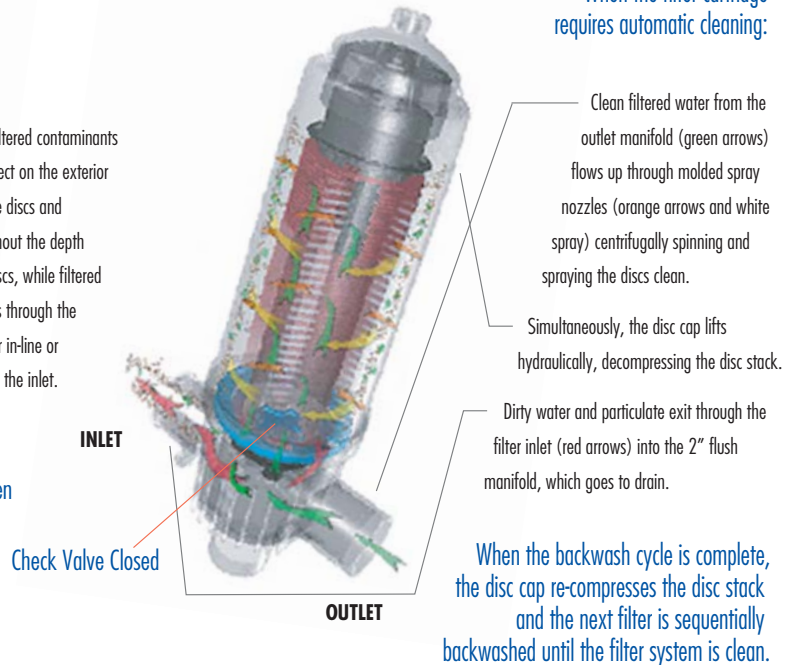
The discs are compressed by the disc cap on top of the disc stack.

The spin plate at the base of the cartridge spins the water, keeping heavier particulate in suspension, therefore minimizing the backwash frequency.



## BACKWASH MODE

When the filter cartridge requires automatic cleaning:



When the backwash cycle is complete, the disc cap re-compresses the disc stack and the next filter is sequentially backwashed until the filter system is clean.

# T E C H N I C A L D A T A

### Flow Rates for a Single Filter Pod\*:

Multiple pods are manifolded for higher flow rates.

2"/70 GPM Max. Per Filter Pod

3"/100 GPM Max. Per Filter Pod

\* Maximum flow rates vary greatly depending on water quality, solids loading, and micron size of the disc media.

**De-rate flow to 50 GPM (per pod) with 50-micron disc media.**

### Micron Options Available\*:

50-micron (≈250 - mesh)

100-micron (≈150 - mesh)

130-micron (≈120 - mesh)

200-micron (≈ 80 - mesh)

\* Centrifugal spinning action of heavy particles combined with the caking-effect achieved across the three-dimensional disc media, greatly increases the micron efficiency.

### Pressure Rating:

All Systems Rated Up to 125 PSI

### Temperature Rating:

All Systems Rated Up to 140°F

### Materials of Construction / Technical Information:

Filter Housings: Polyamide

Filter Disc Media: Polypropylene

Gaskets and O-rings: EPDM

Filter Pod Clamp: Stainless Steel

Inlet / Outlet / Backwash Manifolds; Frame & Skid Assembly:

Type 304 Stainless Steel

Backwash Valves

Bronze (2" filter housings)

Cast Iron, Epoxy-Coated (3" filter housings)

Solenoids: Plastic / Brass

**Maxim** Backwash Controller Features:

- Backwash based on Differential-Pressure, Elapsed Time or Manually.
- User Adjustment of Critical Control Functions (i.e. backwash duration, differential-pressure setting, etc.)

Flow Pump and / or Booster Pump Electrical:

- 460-volt / 3 Phase (standard) – Single Point Electrical

Outlet Control Valve: Cast Iron, Epoxy-Coated (Multiple pod systems only)

Air-Override Feature: 1/4" NPT connection for compressed air

- Air compressor is optional if compressed air is not available

**ENGINEERED**

**TO MEET**

**YOUR SPECS**