

# FOR HVAC AND PROCESS COOLING WATER A P P L I C A T I O N S

## MILLER-LEAMAN'S *Automatic*



**T**he Automatic Turbo-Disc sets the new standard for side-stream cooling tower water filtration. Available in a single-pod model as well as multiple pod models, the Turbo-Disc uses a fraction of the flush water used by traditional sand filters. The Turbo-Disc is effective in removing particulate (sand, sediment, etc.) as well as light airborne contaminants (cottonwood seed, algae, etc.), both of which are commonly found in cooling tower water.

### Benefits of the Turbo-Disc System:

- Improves heat transfer resulting in a Reduction in Energy Costs
- Cuts Maintenance Costs Dramatically by decreasing downtime for cleaning and repair.
- Complements chemical treatment program therefore Reduces the Cost of Water Treatment.
- Increases Lifespan of Downstream Equipment such as heat exchangers, process equipment, etc.

**SIDE**

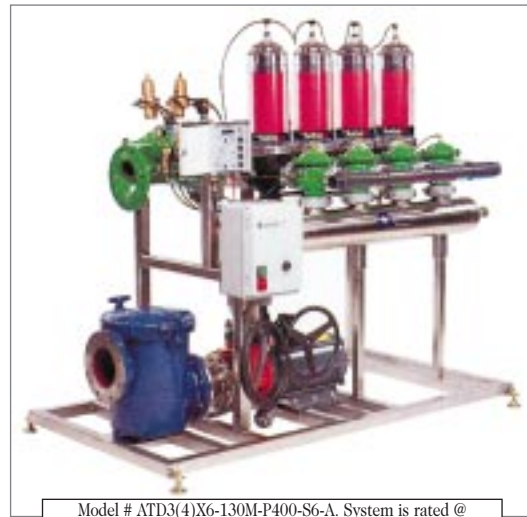
**STREAM**

**SKID**

**SYSTEMS**



Model # AA-ATD2(1)x2-100M-P60-A. System is rated @ 70 GPM max. System backwashes with filtered water from second filter pod (reservoir).



Model # ATD3(4)X6-130M-P400-S6-A. System is rated @ 400 GPM max. System backwashes sequentially with filtered water from outlet manifold.

### Complete Systems Include

- Automatic Filters/Disc Cartridges
- Stainless Steel Inlet/Outlet Manifolds
- Automatic Backflush Valves/Solenoids
- Automatic Backwash Controller
- Stainless Steel Frame and Skid Assembly
- Pump & Motor Starter Relay
- Outlet Control Valve (on multiple pod systems only)
- Air-Override Feature (air enhances backflush efficiency)

### Optional Features

- Isolation Valves
- Pump Pre-Strainer (with perforated screen)
- Air compressor (if compressed air is not available)
- Single Point Electrical Connection



**MILLER-LEAMAN**  
INCORPORATED

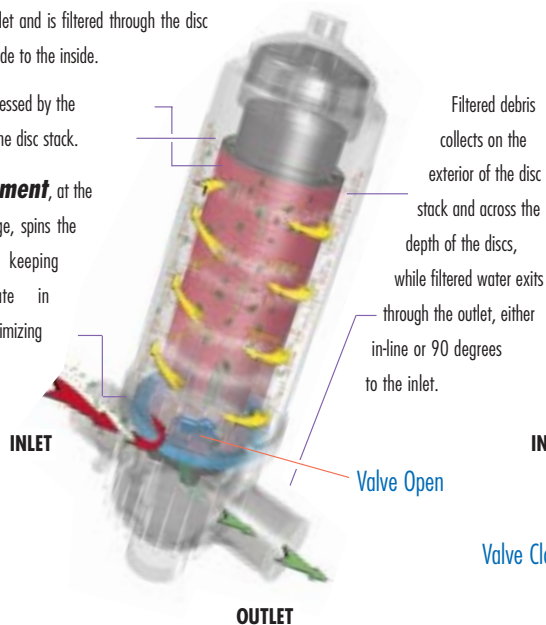
A U T O M A T I C  
F I L T E R O P E R A T I O N

FILTRATION

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 **Turbo-Element**, at the base of the cartridge, spins the incoming water, keeping heavier particulate in suspension and minimizing backflush frequency.



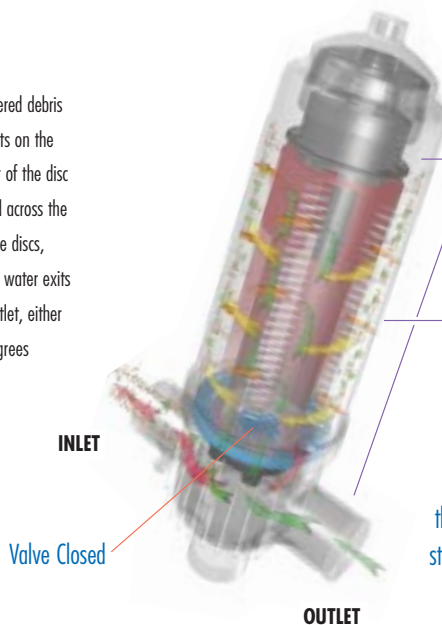
BACKFLUSH

When the filter cartridge requires cleaning:

The disc cap lifts hydraulically, decompressing the disc stack.

A uniform backflush (shown by the green arrows) is then applied through the molded spray nozzles (shown by the orange arrows and white spray) centrifugally spinning and spraying the discs clean. Purge water and debris exit through the inlet.

When the backflush cycle is complete, the disc cap re-compresses the disc stack and normal filtration is resumed.



T U R B O - D I S C S K I D S Y S T E M S  
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 and solids loading.

**Micron Options Available\*:**

100-micron (≈150 - mesh)  
130-micron (≈120 - mesh)  
200-micron (≈ 80 - mesh)

\*Centrifugal spinning action increases micron efficiency. Results vary depending on specific gravity of particulate.

**Pressure Rating:**

All Units Rated to 125 PSI

**Temperature Rating:**

All Units Rated to 140° F

**Materials of Construction / Technical Information:**

Filter Housings: Polyamide  
Filter Disc Media: Polypropylene

**Materials of Construction (continued):**

Gaskets and O-rings: EPDM  
Filter Pod Clamp: Stainless Steel (Type 316)  
Inlet/Outlet manifolds, Frame and Skid Assembly: Stainless Steel (Type 304)  
2" Backflush/Booster Pump Manifold Type 304 Stainless Steel  
Backwash Valves  
Bronze (2" filter pods)  
Cast Iron Epoxy Coated (3" filter pods)  
Solenoids: Plastic/Brass  
Backwash Controller: 120-volt/AC  
Features: • Pressure Differential  
• Elapsed Time • Manual Override  
Pump & Motor Starter Relay  
• 460-volt/Three Phase (standard)  
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

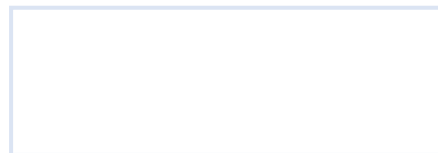
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