

MK. Compact automatic filter

By ML-Irrigation



The MK Automatic Self-Cleaning Filter is reliable and durable yet lightweight and compact, only 12" X 16" in size, fitting almost any livestock, poultry, landscape, or other irrigation applications requiring small pumps. The MK filter is corrosion free, easy to install, and low maintenance. The filter is designed to operate effectively with lower pressures of 12 psi with minimal maintenance. It is outfitted with brand name major components making the filter a user- friendly and easy to maintain.

The suction technology provides excellent cleaning of the screen area. Results may vary depending on specific application and conditions.

The MK Automatic self-cleaning filter will save time, energy, and money, this reducing the cost of both water and labor.

Features & Benefits

- Durable construction
- Molded weave-wire stainless steel screen
- Flexible inlet/outlet configurations
- Energy efficient, unique cleaning mechanism requiring a minimum of only 12 PSI.
- Available in several sizes to fit many applications.
- Includes a Controller for monitoring and programming cleaning schedules.

The Filter:

With Screen elements available between 30-200 mash, the automatic filters are made for a wide range of water conditions in agriculture and industrial applications. The MK filter is available in various sizes and flow options. The filter is constructed from high-quality engineered plastic materials providing excellent mechanical and durability strengths, with ease of installation and maintenance.

The filter applications provide superior hydraulic performance for Greenhouse Nursery, livestock, and industrial applications. The electric over hydraulic valves available in several sizes and flow ranges. we offer ease of operation and reliability over time with high resistance to corrosive water containing fertilizers and other chemicals, manufactured with the highest quality materials for dependable operation day after day.

How the filter Works

Filtration Process - Raw water enters the filter from inlet and it is drawn through the screen from inside to outside of screen and exits as clean water through the filter flow outlet. The Debris collected on the inside of the filter screens and begins to increase the pressure differential across the filter inlet and outlet. Once the **pressure differential** reaches the preset level 5psi (adjustable) at the Differential Pressure Switch (DP) It triggers the self-cleaning process. cleaning is performed.

Optional time backwash interval is and options.

Self-Cleaning Process

Once activated, the flush valve opens, which then creates a powerful backwash stream that flows through the filter screen outside-in, this creates a strong suction force at the scanner nozzles which ensures the entire screen is swept clean and debris is flushed out the discharge valve.

The self-cleaning cycle is initiated by any one of the following conditions:

- Signal from the DP, (pre-set at 5 PSI) adjustable.
- Choice time interval parameter set at the controller.
- Manual start, triggered by electronic controller keypad.

Screen Elements:

These screen elements are constructed of molded reinforced plastic ribs that support a stainless-steel weave wire or weaved polyester screen for filtration degrees of 500 to 80 microns / 30 to 200 mesh.

Available Screen Options

Color-coded	Micron	Mesh
Black	80	200
Yellow	100	155
Red	130	120
White	200	75
Blue	300	50
Green	500	30

General Data

Pip ID Diameter	Flow rate	Minimum working pressure	Max. Working pressure	Maximum working Temp
¾"	13_gpm	12_psi	116_psi	140F/60C
1"	22_gpm	12_psi	116_psi	140F/60C
1.5"	66_gpm	12_psi	116_psi	140F/60C
2"	110_gpm	12_psi	116_psi	140F/60C

Controller:

- Filtration backwash controller-
- Backwash by DP or time interval
- The assembly includes the controller and differential pressure sensor-

Mechanical:

- Operating temperature: -45F to 122F
- Controller case IP66 Dust and watertight
- Front panel cover protection
- Maximum pressure: 14 bar (203 PSI)

Electrical:

- DC units are powered by a single 9V alkaline battery.
- One year of autonomous operation or approximately 4000 backflushes.
- Back-up memory
- Low battery warning
- Solenoid 9-12VDC Latch

Installation

Figure- 1 for livestock/ poultry, drinking system: locate filter at the water source before the pressure regulator since Automatic filter may require higher pressure than drinking fountains.

Figure -2 - 1" Automatic filter with 3/4" Mixrite Pump (model 2502) optional, for optimal automatic filter operation, a minimum of 12 psi required for the backwash. A low flow pressure at the pump will require a different filter location than in the photo.

Nursery / Greenhouse Charlotte NC



2" pipe, with bypass, nursery installation

Livestock drinking water, Storm lake IA



1" pipe, in-line livestock installation + drain

Filter Setup:

The Controller default setup to DP 7 psi, adjustment is an option but not required.

- Connect filter to the water source at the bottom of the filter. The backwash valve is connected to a drainpipe.
- Open the controller and press mode once. The display may show off. Press it again and the display window is up, and the filter is up and running. For further controller information refer to controller instructions.
- Turn water source on.

Wiring the filter.
 (Also, see controller instructions).

Controller must be in off position while wiring the controller to the valves and differential pressure sensor. DP tube, connect high side (red) first, before connecting low side (black), disconnect low side first.

1.

Valve	Controller, wiring color	Solenoid	Valve Open/Close
Flow Valve	White	Green / red	open
	Green	Black	

2.

Valve	Controller, wiring color	Solenoid	Valve Open/Close
Flash V. (bottom valve)	White	Black / Black	close
	Green	Green / Red	

3.

Differential pressure sensor (DP) wiring color	Controller (wiring color)
Red	Red
Orange	Orange
Black	Black

Controller set to default position. (just turn on)

Controller can be adjusted to time activation backflush. Backflush set on a timer, not on pressure.

DP (Pressure) activates backflush.

DP set to 0.05 bar = 7.24 psi activate Backflash for 10sec.