

## "I Series" Filter Model

### How It Works

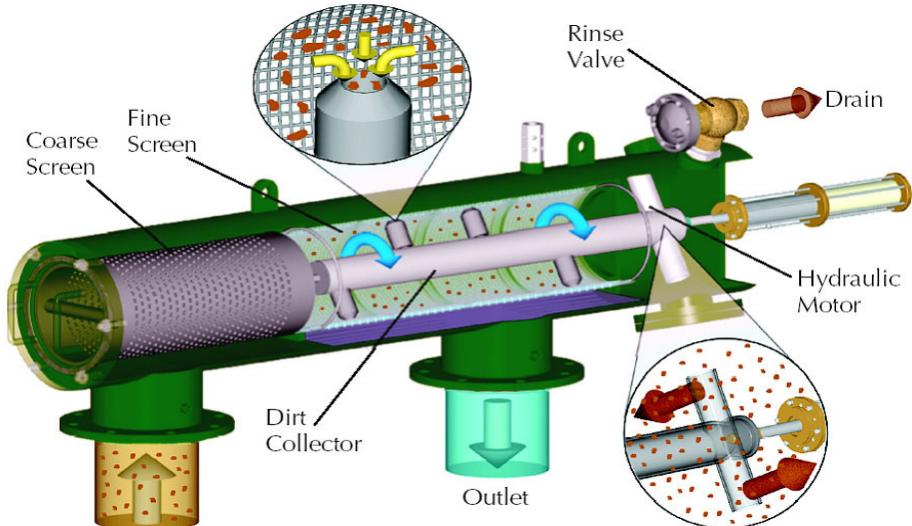
Dirty water enters the inlet flange, then passes through the coarse screen from outside-in removing large hard objects. The pre-screened water then flows to the inside of the fine screen.

As water passes from inside-out in the fine screen, suspended solids are stopped if they are too big to pass through the screen openings. Clean filtered water then leaves the filter through the outlet flange.

As more and more material builds up on the inside surface of the fine screen a pressure drop in the system begins to build. When a preset pressure drop threshold (normally 7 psi) is reached across the fine screen, the controller is signaled to initiate a cleaning cycle.

The first step in the cleaning cycle is to open the rinse valve to atmospheric pressure which quickly drops the pressure in the flush chamber. Because the hollow dirt collector connects the end openings in the nozzles to the flush chamber, water quickly moves from the nozzle openings, through the dirt collector into the flush chamber and out the rinse valve to a drain.

Since the nozzle opening is nearly touching the screen surface, water rushes backward through the fine screen (outside-in) in a small area (about the size of a dime) at a velocity exceeding 50 ft/sec. This intense energy sucks off the stickiest material and expels it from the system though the rinse valve.



**Exploded View of the "I Series" filter**

The hydraulic motor then rotates the dirt collector while the hydraulic cylinder moves the dirt collector linearly. The spiral movement of each nozzle on the dirt collector assures that every square inch of fine screen surface is sucked clean of all debris in 5 to 10 seconds.

The next cleaning cycle will begin when the pressure drop threshold is met again or until a preset time interval has been reached.

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