

WRV SERIES Automatic Self Cleaning Water Filters

3/4" & 1"

Water Saving Filter Slashes Backwash Water by 90%

The WRV series units from Waterman Industries provide efficient and reliable filtration while conserving the amount of backwash water required. Due to its efficient rinse system, the WRV uses 1 to 2 gallons per rinse cycle. This low consumption makes it the ideal unit for a wide variety of applications. Designed for low flow applications, the unit is available with 3/4" and 1" inlet and outlet, to handle flow rates up to 27 gpm. The stainless steel fine screen is available in a variety of sizes to suit any application.



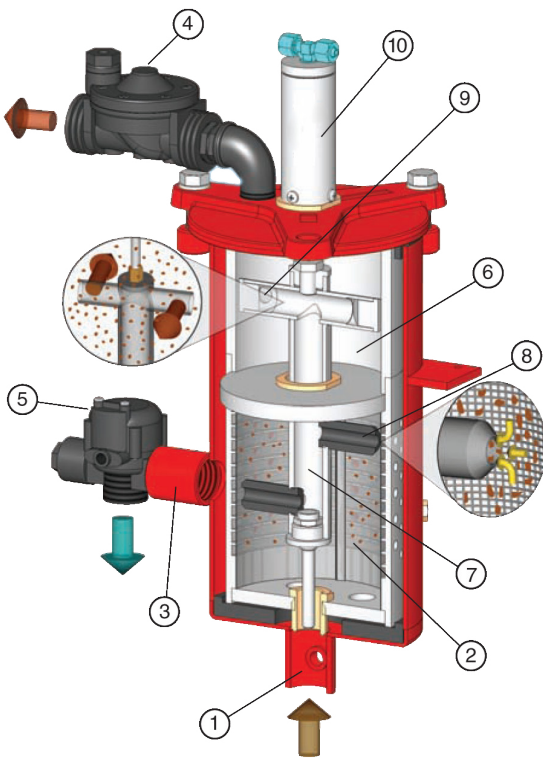
How It Works

Dirty water enters the inlet (1) into the center of the fine screen (2). The water then passes through the fine screen from the inside out and exits to the outlet (3).

The unwanted solids accumulate on the inner surface of the fine screen, building up a filter cake which filters out even finer particles, creating a pressure differential. Once the pressure drop reaches a pre-set level, a rinse cycle is activated by the control system, opening the rinse valve (4) to an atmospheric drain and closing the optional controlled outlet valve (C.O.V.) (5).

As a result, pressure drops in the hydraulic motor chamber (6) and the dirt collector assembly (7). The pressure drop creates a backflush stream, which sucks the dirt off the screen, similar to a vacuum cleaner. The backwash water is carried through the nozzles (8) and the direct collector tube before being ejected out of the holes in the hydraulic motor (9).

The water being ejected out of the hydraulic motor causes the direct collector to rotate, similar to a sprinkler. In addition, the pressure drop in the hydraulic motor chamber forces the dirt collector assembly to move axially, controlled by hydraulic piston (10). This combination of movements ensures that the entire screen area is cleaned each cycle.



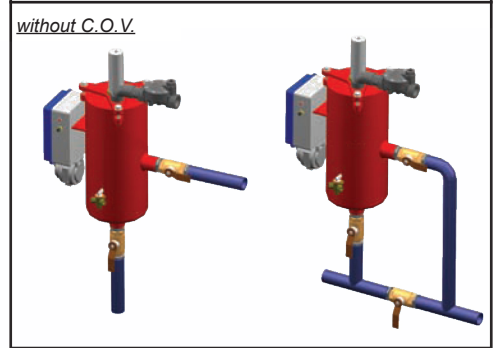
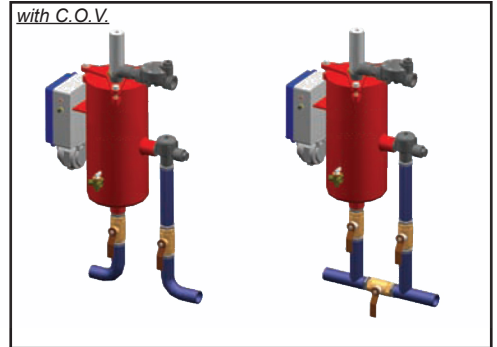
Applications

Cooling Water
Drinking Water
Intake Water
Reclaimed Water
Effluent Water
Well Water

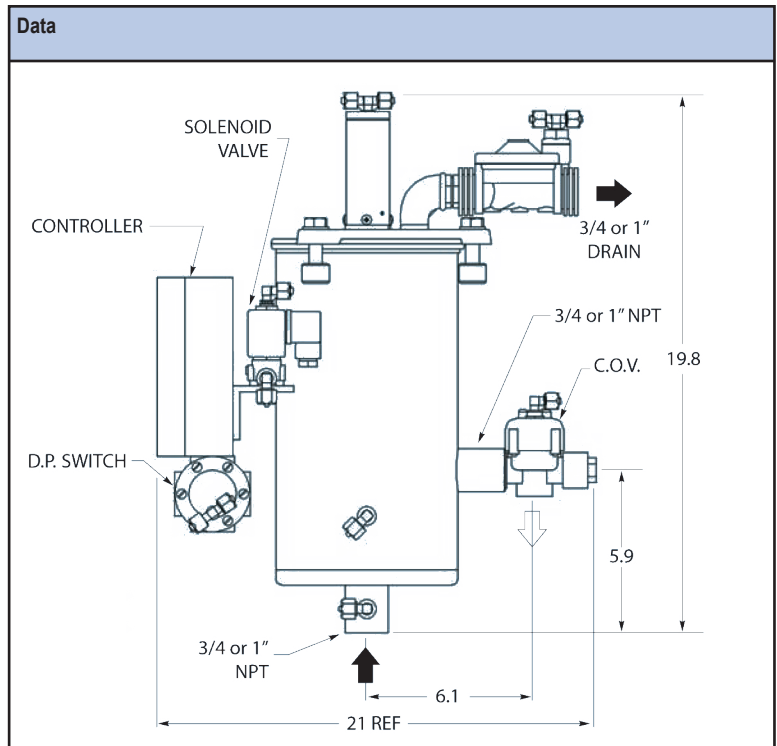
Waste Water
Wash Water
Irrigation
Turf
Cooling Towers
H.V.A.C.

Pump Seals Protection
Fire Sprinkler Protection
I.E. & R.O. Protection
Nozzle Protection
Heat Exchange Protection
Air Compressor Protection

Specifications		
	Standard	Optional
Maximum Flow Rate	27 G.P.M.	
Inlet/Outlet Connections	3/4" or 1"	
Drain Valve Connection	3/4" or 1"	
Weight	50 lbs. empty, 63 lbs. full	
Power	None, line pressure powered	Electrical (See WRE/P Series)
Self Cleaning Operation	Fully automatic	Semi-automatic, manual
Material of Construction	Carbon Steel or Stainless Steel	Titanium, Hastelloy, and others
Operating Pressure	30 psi min; 120 psi max	12 psi min; 1,000 psi max
Operating Temperature	No min; 150°F max	No min; 212°F max
Screen Pattern	Wire mesh with PVC support	Wedgewire, multi-layered sintered
Open Screen Area	42 in2 (wire mesh)	63 in2 (multi-layered sintered)
Screen Aperture	50 - 3,000 micron	5 - 10,000 micron
Rinse Cycle	5 seconds, 2 gallons	As needed
Code	ISO 901	ASME "U" stamp, others
pH Resistance	4 - 9	1 - 12
Compatible Fluid	Water	Sea water, oily, highly corrosive
Connections	Threaded	Flanged, victaulic, others
Controls	Omnitrol 100, 400	Omnitrol 2000
Control Power	110V/220V AC, 1/2 amp, 9V/12V DC	Hydraulic
Controller Enclosure	Waterproof	NEMA 4X, explosion proof
Backwash Activation	Differential Pressure, timer, manual	Volumetric, remotely



Screens			
	Woven on PVC Support	Multilayer Sintered	Wedgewire
Screen Patterns			
Screen Apertures	15-1500 Mic	1-5000 Mic	25-2500 Mic
Open Screen Area	40%	60%	30%
Hydraulic Collapse D.P.	300 PSI	300 PSI	300 PSI
Temp Rating	150°F	300°F	750°F
Material	St/St 316L	St/St 316L	St/St 316L
Optional Material	Titanium, Hastelloy, and other exotic material		
Fibrous Mat. Filtration	Poor	Poor	Excellent
Price	Low	Medium	High



Screen Apertures																		
																		Visible to the naked eye. →
Micron	5	10	15	25	30	40	50	80	100	120	150	200	400	800	1000	1500	3000	
Mesh*	3000	1500	1000	600	500	400	250	200	150	120	100	80	40	20	16	10	5	
in*	.002	.004	.006	.0010	.0012	.0016	.002	.003	.004	.005	.006	.008	.016	.032	.04	.06	.12	
Physical Size																		
*Approximate and for reference only.																		