



Gravity valveless filter

Purpose and introduction

ZW gravity valveless filter is a small filter structure without gate valve and using hydraulic conditions to automatically control backwashing. Introduced by Japan in the 1970s, it is suitable for small and medium-sized water plants. Gravity valveless filter is a small-scale fast filter which automatically backwashes according to the increase of filtration head loss with filtration duration and the principle of siphon action.



The main advantage of ZW gravity valveless filter is that it does not need to use large gate valve and operates automatically; The main disadvantage is that the filter material is in a closed pool, which is more difficult to remove the dirt on the surface of the filter layer that is difficult to wash for "sanding".

During filtration, the muddy water passes through the inlet water distribution tank, enters the siphon riser from the inlet pipe, and then evenly distributes on the filter material layer after passing through the baffle under the umbrella top cover, and enters the bottom water distribution area through the support layer and small resistance water distribution system. The filtered water rises to the flushing water tank through the connecting channel. When the water level of the water tank reaches the overflow weir at the outlet of the outlet channel, it overflows into the channel and finally flows into the clean water tank.

It is widely used in surface water purification, iron and manganese removal from groundwater, circulating water side filtration and other subsequent processes.

Main parameters:

Processing capacity (m ³ /h)	Average filtration rate V(m/h)	Inlet SS (mg/L)	Outlet SS (mg/L)	Average backwash intensity (L/S-m ²)	Backwashing duration (min.)	Filter material	
						Filter material layer height(mm)	Supporting layer height (mm)
Q=V-S	10	≤20	≤3	14-15	5	0.7	0.30



Specifications and main technical parameters:

Model	Water yield (m/h)	Number of filters	Group form	Overall dimension of monomer(mm)	Unit operating capacity (kg)
ZW-F-20	20	2	Square integration	2000 x 1100 x 4340	15450
ZW-F-30	30			2000 x 1630 x 4402	22170
ZW-F-40	40			2165 x 2000 x 4442	28970
ZW-F-50	50			2710 x 2000 x 4442	35300
ZW-F-60	60			2600 x 2500 x 4502	42860
ZW-F-80	80			3000 x 2900 x 4547	57010
ZW-F-100	100	2	Square dihedron	2100 x 2600 x 4512	37560
ZW-F-125	125			2255 x 3000 x 4558	46230
ZW-F-150	150			2705 x 3000 x 4558	54600
ZW-F-175	175			3160 x 3000 x 4558	63200
ZW-F-200	200	2	Circular dihedron	Φ3720 x H5174	70450
ZW-F-240	240			Φ4080 x H5247	184490
ZW-F-320	320			Φ4700 x H5412	113540
ZW-F-400	400			Φ5260 x H5523	147490
ZW-F-500	500			Φ5870 x H5669	184490
ZW-F-300	300	3	Circular trisomy	Φ3720 x H4444	62180
ZW-F-360	360			Φ4080 x H4517	74980
ZW-F-480	480			Φ4700 x H4682	100460
ZW-F-600	600			Φ5260 x H4793	137870
ZW-F-750	750			Φ5870 x H4939	173190