

# Sediment Removal using Sand, Filter Ag, Turbidex, Glass



Sediment filters are used for treating cloudy, dirty or highly turbid waters. The particles are trapped within the media holding on to them until they are periodically backwashed to drain. Clear water passes through. Turbid water contains organic compounds, clays, and metals such as iron and manganese.



## Sediment filters

Sediment filters are needed when the water supply is cloudy or turbid. The particles in the water will block plumbing systems, leave unsightly staining, may contain toxic chemicals or bacteria. The easiest way to remove the particles is by passing the water through a media where the particles get stuck and allowing clear water to flow through. The particles can be periodically 'backwashed' away to drain.

## Sand

Sand is the most cost effective media. The grade of sand is tightly controlled so only highest quality, triple washed water treatment grade sand is used. The water passes through the sand and any particulates get trapped by the sand. Particles above 40 micron are typically trapped.

## Filter Ag™

Filter Ag has a high surface area and complex flow path for a more efficient removal of suspended matter. Typically particles down to 20 micron can be trapped. Filter Ag is slightly more expensive than sand and should be soaked for 24 hours before use. A 50:50 mix of sand/Filter Ag forms an excellent value media mix.

## Turbidex™

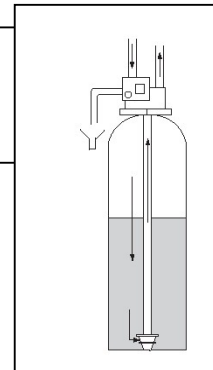
Turbidex is a natural ore that has a more irregular surface than sand giving more efficient removal of suspended matter. This means the equipment can be smaller or faster flow rates can be achieved for a given size. Particles down to 5 to 10 micron are typically removed. Turbidex must be soaked before use.

## Glass/AFM/EFM

AFM is a recycled glass media and has shown excellent sediment removal properties similar to sand.

## How does it work?

Water flows into the valve at the top, down through the media and then up through the 'riser' tube in the middle of the vessel. As the water travels through the media the sediment is trapped so only clean clear water flows out to service. There are timer options that can be set to automatically self clean (backwash) and wash away any of the accumulated sediment.



**How to size.**

On average 160 litres of water is used per person per day. This normally occurs in two peak periods, one in the morning and one in the evening. A family of four typically uses 700 litres of water per day but may use 300 litres in an hour in the morning. Larger households, farms, stables and irrigations systems all use more water.

When sizing a system the peak flow rate need to be taken into account. The size of the pump also needs to be taken into account as these filters normally use twice the service flow rate to lift the bed and backwash away the trapped iron and manganese. If the backwash flow is not available two smaller units running side by side is often a good solution.

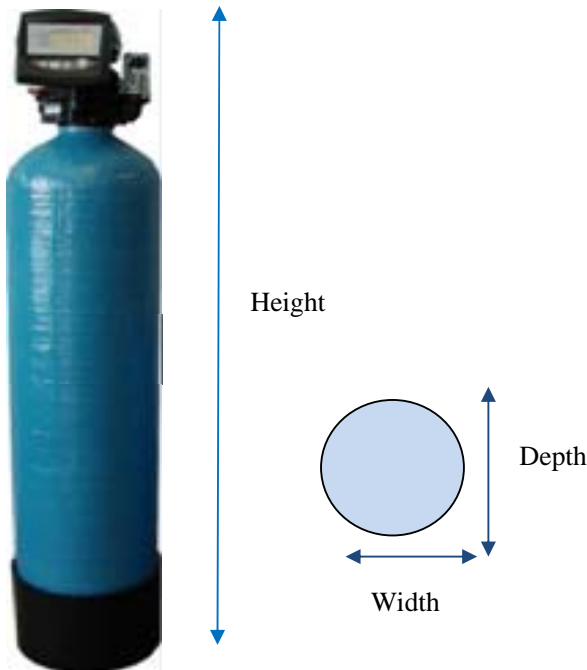
The vessel size is given as the diameter and the height (in inches). Recommended operating pressure range 20 to 120 psi. Water temperature range from 2 to 38°C.

**Sand, Filter Ag, Glass**

Vessel	Service Flow m <sup>3</sup> /hr	Backwash m <sup>3</sup> /hr	Connections In / Out	Max Footprint		
				Width mm	Depth mm	Height mm
1054	0.6	1.1	1"	269	390	1597
1252	0.9	1.8	1"	315	390	1548
1354	1	2	1"	341	390	1584
1465	1.2	2.3	1"	369	390	1870
1665	1.6	3.4	1"	406	406	1875
1865	2	3.9	1"	510	510	1997
2160	2.7	5.7	1½" or 2"	552	579	2212
2469	3.6	6.8	2"	610	640	2171
3072	5.6	11.4	2"	770	770	2341
3672	8	17.1	2"	927	927	2445
4278	11	22	2"	1133	1133	2730
4882	14	28	3"	1290	1290	2770

**Turbidex**

Vessel	Service Flow m <sup>3</sup> /hr	Backwash m <sup>3</sup> /hr	Connections In / Out	Max Footprint		
				Width mm	Depth mm	Height mm
1054	1.5	1.9	1"	269	390	1597
1252	2.2	2.7	1"	315	390	1548
1354	2.5	3.1	1"	341	390	1584
1465	3	3.6	1"	369	390	1870
1665	3.7	4.8	1"	406	406	1875
1865	4.8	6	1"	510	510	1997
2160	6.6	8.2	1½" or 2"	552	579	2212
2469	8.6	11	1½" or 2"	610	640	2171
3072	13	17	2"	770	770	2341
3672	19	24	2"	927	927	2445
4278	26	33	3"	1133	1133	2755
4882	34	43	3"	1290	1290	2770



Softeners, iron and manganese removal systems are also available as are other medias such as pH correction, sand, carbon etc. Sizes and dimensions are for indication purposes only and may change without notice.