

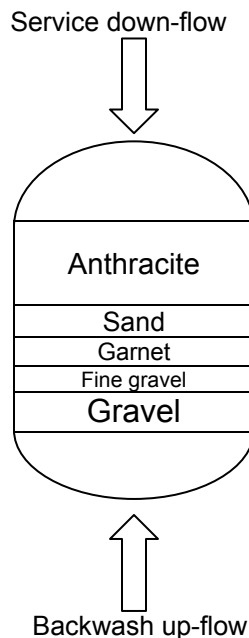


MULTI MEDIA FILTRATION

TECHNICAL INFORMATION

Multi-media filtration process, an exclusive feature consisting of three minerals of different grain sizes arranged in layers so that the top layer (anthracite media) consisting of larger particle size followed by layers with diminishing grain size (garnet) and fine gravel. See diagram below. Raw water passes through the filter bed in a down-flow direction and distributes turbidity gradually throughout the filtering mass. Larger suspended particles are held by the first layer while the smaller particles are held by the finer and progressively more compact underlying strata.

Multi-media filtration process works on the physical and chemical phenomenon of spontaneous flocculation that occurs naturally due to the decreasing dimension of grain size. Spontaneous flocculation is a result from the progressive increase in velocity of water going through the mass to the point where such velocity succeeds in breaking the electrochemical equilibrium of the colloids. Such phenomenon cannot occur in filter beds consisting of one single filter media because the velocity of the water does not undergo the necessary progressive acceleration. Multi-media filtration process also makes backwash cycle more efficient because of the shallow dept of each filtering layer and gradual enlarging of the interstitial volume from the bottom to the top, thus allowing better removal of turbidity accumulated in the filtering bed during the filtration cycle.



The interesting points about multi-media process are as follows:

- Over four times holding capacity as compared to performance by conventional single medium filters.
- Eliminates suspended matters down to 10 micron size as compared to 30-50 micron produced by the convention single medium filter.
- The time required and the velocity of the backwash results in saving of 50% amount of water and time required by the conventional single medium filter.
- Runs many times longer than conventional filter between backwashe cycles because the entire bed traps turbidity.
- Utilizes only raw water in backwashing.
- Requires less space as compares to ordinary filters