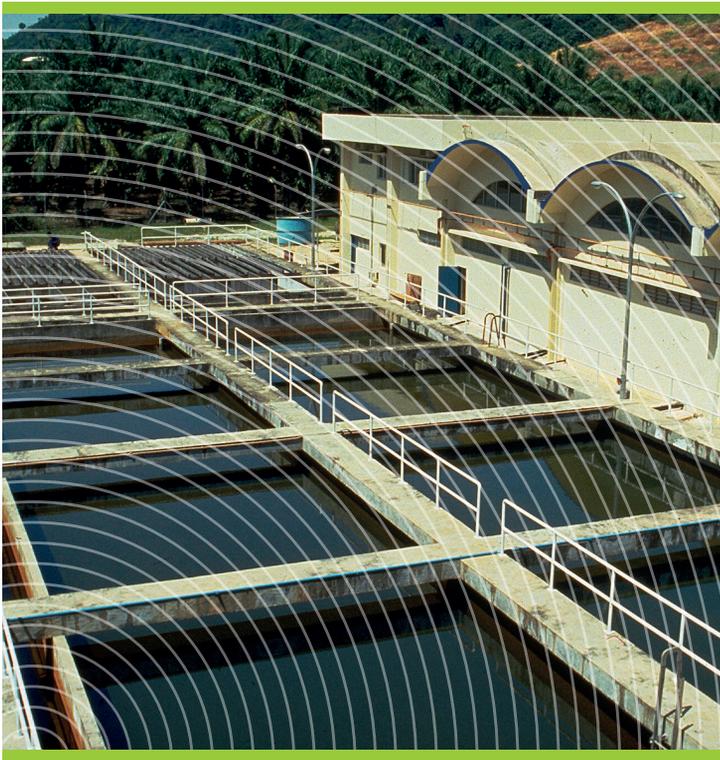




Aquazur[®] V

open sand filtration

● **drinking water & urban wastewater**



a high speed and performant sand filter with multiples advantages

- **efficient washing system**
no turbidity peak due to no overload when washing the other filters
- **easy operating control**
no need of filter flow measurement

Designed for drinking water plants, Aquazur[®] V is a descending current open sand filter. It retains suspended particulate matter in raw water thanks to a thick layer of sand. The homogeneity of the sand increases the filter run time, while the thickness enables filtration at high speeds and the high water head (1.20 m) prevents degasification.

The Aquazur[®] V is typically used for drinking water treatment line: coagulation, separation, filtration and can be also used after decarbonatation in a Densadeg[®]. The Aquazur[®] V is also highly suitable for municipal wastewater tertiary treatment regarding suspended matter and phosphorus removal. This type of tertiary filtration is particularly interesting to improve any downstream disinfection process (U.V., chlorination, etc.)



operation

filtration

The unfiltered water, distributed to the filter by the inlet weirs, enters over the sand. It crosses through the sand, where suspended solids are retained. Filtered water is evenly collected by the floor nozzles. The chamber below this floor is connected to the filter outlet, usually by a filter controller. From the outlet, the water is conveyed to subsequent treatment steps. During filtration, sand gradually clogs the filter. When a preset degree of clogging is reached, filter washing must take place.

washing in three steps

- ① Lowering of the water level to the washout weir.
- ② Filtered water backwash at 7-15 m/hr combined with air scour at 50-60 m/hr and crosswash with unfiltered water at 7 m/hr. A perfectly even distribution of water and air scour is achieved by the special design of the nozzles.

- ③ Rinsing by backwash with filtered water at 13-15 m/hr, with a crosswash of 7 m/hr.

The overall duration of washing ranges from 10 to 12 minutes, with water losses amounting to 4 to 5 m³/m² of filter area, only 2 m³/m² of which is filtered water.

operating control

The major control parameter is the degree of sand clogging, which commonly determines when washing is necessary. Filter flow measurement is not necessary, as the various filters deliver the same flow, evenly split by the inlet weirs. Filtered water turbidity is usually monitored at the outlet of the filter battery and not for each individual filter.

advantages



a high-rate open filter

original, efficient and economical backwashing



level controller

tailor-made operating control



range / performance

- Filtration rate of between 6 and 8 m/hr
- Wash-water rate of 14 m³/m²/hr
- Total wash-water + washout flow is between 20 and 22 m³/m²

