

WATERPURE-DF

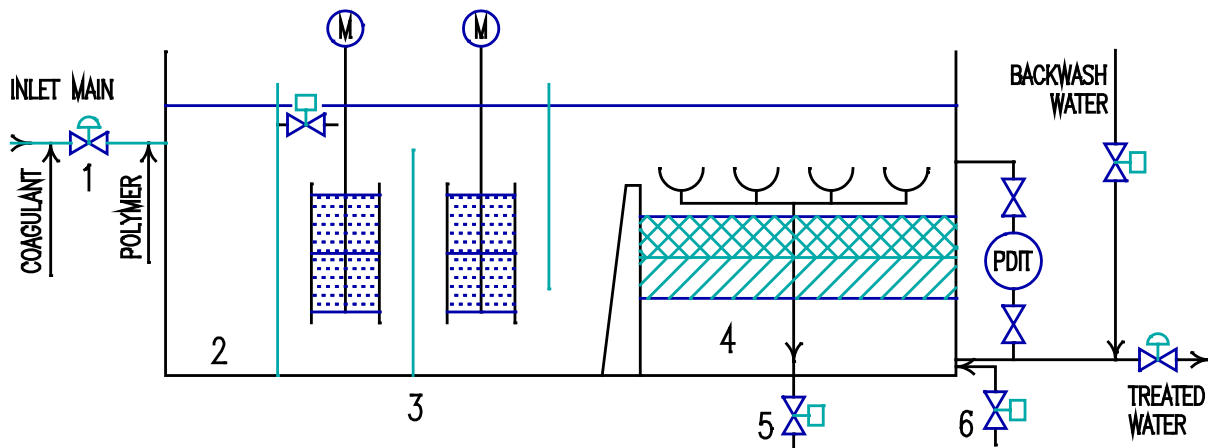
Direct Filtration Water Treatment Plants

Economic Water Supply for Medium to Larger Communities

For those raw waters with low turbidity and of low to moderate colour, the Aquatec-Maxcon range of **WaterPure-DF** package water treatment plants is most suited. The **WaterPure-DF** is economic

and efficient and eliminates the capital and operating costs associated with conventional water treatment plants using sedimentation. The cost savings can amount to as much as 30%!

Chemical Costs are Significantly Reduced with WaterPure-DF as Less Coagulant is Required



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| 1. FLOW CONTROL VALVE | 4. FILTER |
| 2. INLET CHANNEL | 5. WASTE WASHWATER |
| 3. FLOCCULATORS (OR DELAY COMPARTMENT) | 6. AIR SCOUR |

Design Advantages

- The **WaterPure-DF** does not require a clarifier and is thus very compact
- The construction of the **WaterPure-DF** affords ease of site installation and minimum overall completion time to achieve reliable potable water output
- **WaterPure-DF** is provided with dual media or multi-media filter beds to provide necessary floc storage volume and economic filter run time
- The **WaterPure-DF** plant can be made to be transportable by way of truck or rail
- Media filtration ensures the physical removal of protozoan cysts such as *Giardia* and *Cryptosporidium*, (species which cause gastrointestinal disorders) which are unaffected by conventional use of chlorine only
- A variety of disinfections systems are offered, including chlorine, hypochlorite, ozone or UV. Ozone and UV are superior viral disinfectants but require a supplementary disinfectant to give a residual such as chloramines

- Optional unit operations to remove special contaminants can easily be added to the **WaterPure-DF** line of water treatment plants

Operating Parameters for the WaterPure-DF such as Flocculation Time, Dosage and Filtration Rates and Achievable Run Lengths Must Be Determined Through Pilot Trials

Design Features

- Pretreatment chemicals such as coagulants and flocculants are injected upstream of the plant inlet and intimately contacted with the raw water
- The chemically dosed water enters the flocculation chamber, where floc establishment and growth is promoted by gentle paddle mixing. This flocculation time is designed to produce a strong 'pin-point' size floc suitable for direct filtration without excessive clogging
- Flocculated water passes under a partition baffle and into the filter compartment
- Deep-bed filtration is achieved by passing through a dual media (or multi-media) filter bed for entrapment of solids

- Filtered water can then be subjected to disinfection to destroy, pathogenic bacteria, viruses and protozoan cysts prior to its use
- After a certain head loss or elapsed time between backwashes has occurred, the filter is automatically backwashed by air scouring to dislodge entrapped floc particles. This is followed by a high-rate water backwash for flushing of solids

Options

- Automatic operation
- Multi-media filtration
- Pre ozonation module
- Granular activated carbon for colour and specific organic removal
- Polymer/pH correction dosing equipment
- Raw water delivery pump
- Laboratory equipment
- Variety of disinfection scenarios, including chlorine gas, sodium hypochlorite, chlorine dioxide, ozone/chloramines, UV/chloramines, etc
- Wastewater and sludge handling and supernatant return

Applications

- Raw waters from bores, rivers, lakes, dams, and other fresh water sources with low turbidity and low to moderate colour

The manufacturer reserves the right to alter performance, specification or design without notice.



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