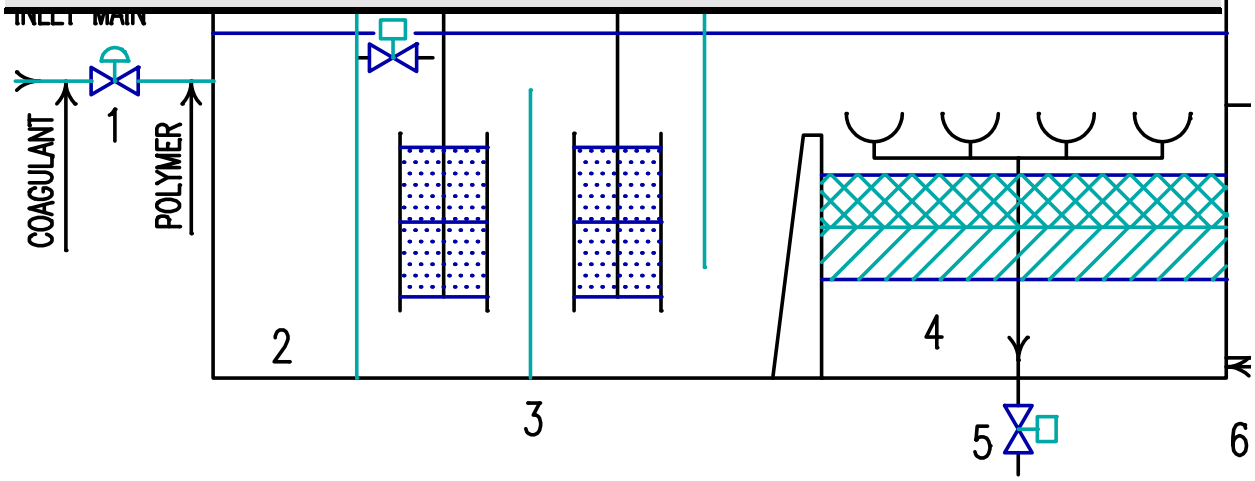
WATERPURE-DF
Direct Filtration Water Treatment Plants
Economic Water Supply for Medium to Larger Communities

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 andoperating 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



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

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