



WATEX | Technological solutions and Equipment for Water treatment

Drinking water treatment plants

Consultancy



Construction



Service



Design



Installation



Renovation



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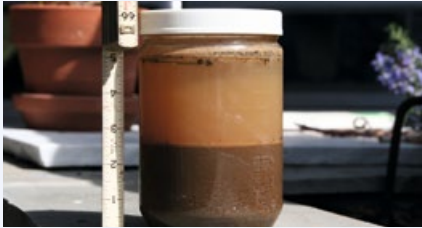
Drinking water treatment

Our engineering team has great experience in the field of drinking water purification.

Working on most innovative and effective water treatment solutions, the company has reached leadership in domestic municipal water treatment plant sector. We have more than 300 references and 150 service agreements within the field of water supply. Capacity of existing plants built by WATEX reach up to 800m³/h. This shows our experience and level of quality.

Ground water problems

Sand – Mud – Turbidity



Ground water and surface water can contain sand, mud and different sediments that clog the system, wear out valves, measuring devices, etc.

Solutions

Several types of treatment are possible, like WATEX BF series bag filters, cartridge and disc type which are ideal for filtration jobs with heavy demands on flow rates and space. They are used for filtration of boiler water and cooling water, circulation water in district heating plants, rinse water in the surface treatment industry and in the electronics industry etc.

Iron and manganese



Iron and manganese often causes the main problem of the waterworks. When water gets in contacts with air, it changes the colour, turbidity increases and sediments appears. Water has a metallic taste. Water pipes are clogged and sanitation at the consumer becomes dirty. Suggested concentration of iron should be 0.1 mg/l and manganese 0.05mg/l.

Solutions

The best solution for this problem is oxidation and sand filtration, WATEX FA and RCTB plant series. Media used in pressure filters are Aqua Mandix, quartz sand 0.7x1.2mm, 3x5mm. Plant size depends on iron form, concentration, flow rates and other impurities.

Drinking water

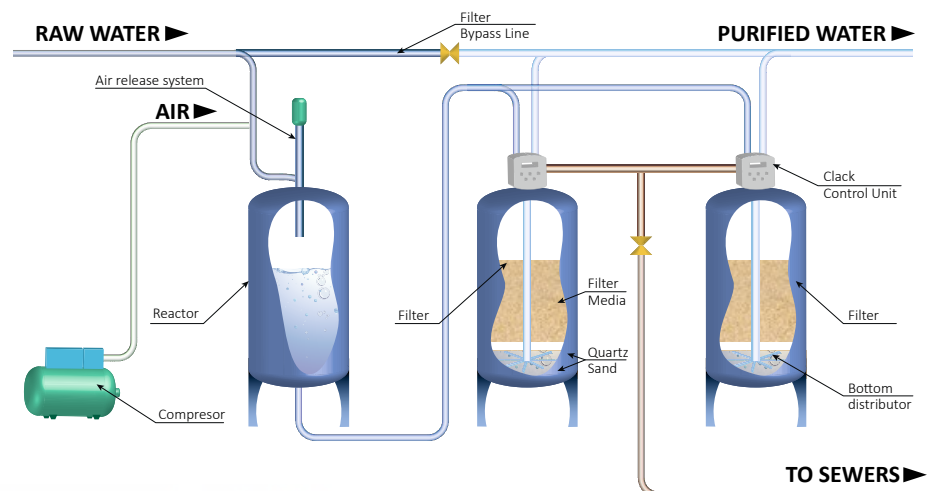
Drinking water must comply with water standards and be uncoloured, unscented and tasteless. To check and ensure water quality, test samples are taken and water is filtered through the pressure filter, if necessary.

To obtain water with the required quality and reduce aggressive carbon dioxide, iron, manganese, ammonium, pesticides, and arsenic in water, waterworks, companies and households use pressure filters for this purpose.

According to water application, quality and consumption, different pressure filters might be used for water purification. We'll be happy to help you to find the best possible solution.

Principles of pressure filter

Pressure filter operating principle is based on aeration and filtration. When water is aerated, iron, manganese and mechanical impurities form sediments, which can be filtered. Suspended solids are filtered through filtering media, which has been poured in to filter. Filters, depending on pollution levels and water consumption, have to be rinsed regularly. After rinsing, filters are regenerated and can purify water.



Sand filtration plant series

WATEX engineers wide range of models – from simple and reliable to technologically innovative and in practice approved sand filtration plant models.

WATEX FA series



WATEX RCTBx2 series



APPLICATION

Sand filtration plants are designed to purify water from turbidity, colourfulness, iron, manganese and odour for villages, cities and industrial enterprises. Mainly it is used for groundwater purification.

ASSEMBLY CONNECTIONS

Piping system and assembly connections available from PVC-U or STAINLESS STEEL.

PRESSURE TANK

Pressure filter tanks can be made of steel (galvanized or food grade coating), fiberglass or stainless steel.

FILTER MATERIAL

For water purification filtering media Aqua-Mandix and quartz sand with different grain size (0.4–0.8mm, 1–3 mm, 3–5mm) is being used. Porous structure of Aqua-Mandix provides a large active surface and provides efficient adsorption and accumulation of sediment.

CONTROL SYSTEM

Filters are equipped with electric three way valves and automatic control unit with LCD display, which can be used to change the filter parameters like date, time, protection from access by unauthorized persons. The system is compatible with SCADA visualization and GSM alarm system. Filter backwash can be ensured by time and volume pressure drop control devices.

The filters are equipped with an automatic Clack control valve which performs filtering and rinsing sequences automatically. Filters can be rinsed in automatic mode as well as in manual mode. Filter backwash can be ensured by time and volume pressure drop control devices.

AIR SUPPLY AND RELEASE

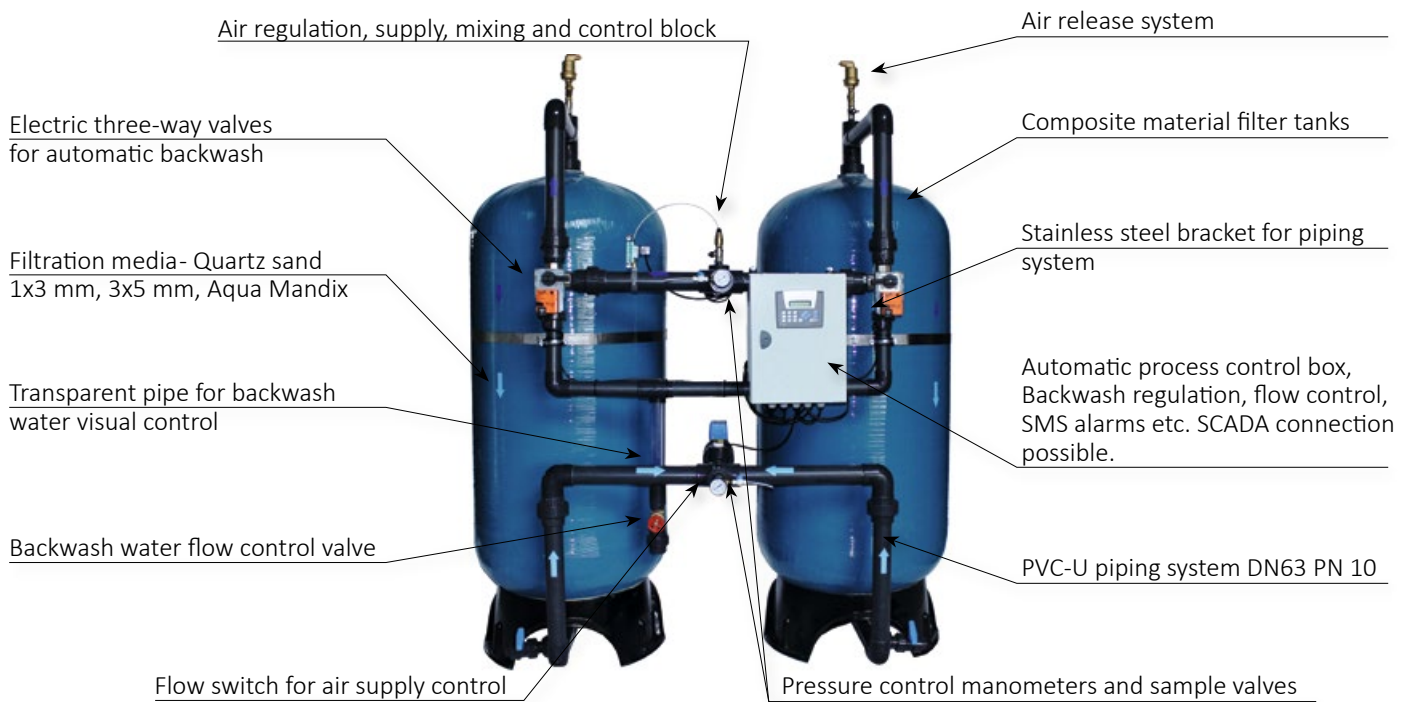
To ensure oxidation process air is supplied to water by oil-free compressor. Air amount is regulated by flow control unit. Filtration system has built in flow-meter which gives signal to electromagnetic valve to support air proportionally to water amount. For FA models air is supplied directly in pressure filters and air release system also is built in filters.

To ensure oxidation process air is supplied to water by oil-free compressor. Air amount is regulated by flow control unit. Aeration and air release process is located in reactor before filters.

SYSTEM MAINTENANCE

Filters will provide with good quality water if operating personnel will ensure proper air supply, and unnecessary air removal and regular rinsing processes. Water purification system does not require any specific chemical admixtures that have to be refilled.

WATEX FA series filters



Plant assembly types



Standard, prefabricated – pre-assembled, tested, marked, disassembled and packed for safe shipping. Used for a wide range of plants when it is important for compact transportation. The components are clearly marked and can be installed by Customer's technical personnel following instructions. All Start-UP instructions and technical drawings are included in the installation package.



Frame mounted plants – the best option for the customers with short deadlines. Frame mounted plant is fully mounted and ready for use right after delivery. It can be easily implemented for water treatment immediately. Frame option is also available for large capacity plants by using container-size frames. Frame mounted plants are mainly used inside buildings. All Start-UP instructions and technical drawings are provided together with the plant.



Containerized plants – ready to plug & play. All units are mounted and tested in production and ready to operate shortly after arrival. Container plants are used for short term and long-term water treatment. Short term used as capacity upgrade for an existing waterworks plant. Container plants can be installed with various water purification units following customers' needs. Container size is not a limitation for plant capacity, if its necessary plant can be designed in more than one container. Containers are insulated and equipped with electric heating.



Watch Our-Online presentation here!

WATEX headquarters and production facilities are located in Riga, Latvia



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