

WATEX MWTP2000

TECHNICAL OVERVIEW AND CONFIGURATION GUIDE

Mobile containerized water-treatment system



Read this guide and the project-specific documentation before commissioning or operating the system.

System purpose

WATEX MWTP2000 is a project-configured mobile containerized system for treating polluted surface water, brackish water and other raw water of uncertain quality. Raw-water analysis, the required treated-water quality and the signed project specification govern the delivered treatment train. Technically competent personnel must commission and operate the system.

Verified key data

Parameter	Value / condition
Nominal purified-water production	Up to 2,000 L/h
Clean-water storage volume	5,000 L
Water-distribution flow	Up to 3,000 L/h
Maximum operating pressure	15 bar
Container format	Standard 20-foot ISO container
Indicative service life	More than 10 years with correct operation and scheduled maintenance

Treatment train

Stage	Verified treatment function
1	Raw-water intake and 90 µm coarse pre-filtration
2	Sand filtration to approximately 1 µm
3	Activated-carbon filtration for organic compounds, petroleum products and odour
4	Reverse osmosis for high-purity water production
5	Clean-water storage in a 5,000 L tank
MODULES	Configuration-dependent treatment modules: UV disinfection after storage and before distribution, and antiscalant dosing where required. Confirm which modules are included in the signed project documentation.

Project confirmation before commissioning

Confirm a representative raw-water analysis and the required treated-water specification before final configuration.	Verify the project-specific process order, valves, sampling points, instruments, set points and electrical supply against the approved drawings.
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Container and utilities

Component	Source-controlled specification
20 ft container	New sea container, 6.06 × 2.44 × 2.40 m, insulated internally. The floor has anti-slip aluminium plates. Lighting, sockets and ventilation are installed. Equipment is secured to frames for transport.
Clean-water reservoir	5,000 L non-pressurized polyethylene tank with inspection hatches, inlet and outlet connections, overflow lines and visual level indication.
Autonomous power	Adjustable three-phase 6 kW petrol generator for lighting, pumps, instruments, control systems and ventilation.
Raw-water intake	Petrol-engine pump with a vacuum-suction function. The source specifies extraction from a water reservoir at least 5 m deep. The pump is placed near the source and feeds the plant through an above-ground pipeline.

Factory-prepared delivery package

Component	Source-controlled specification
Factory preparation	Assembled, filled with filter media and tested before delivery.
Process piping	PE or PVC pipes with flowmeters, sampling points, brackets, flow-control and regulating equipment.
Documentation and consumables	English user manual, project-specific spare and replaceable parts, additional reagents and 5 L clean-water bags as defined in the signed supply scope.
Transport	Movable by a cargo truck and manipulator suitable for handling 20 ft containers.

Treatment equipment

Component	Source-controlled specification
Coarse pre-filtration	ATLAS HYDRA RAH M dual sediment-filter set with flushing function, filtration to 90 µm, stainless-steel screens and pressure gauges for pressure-loss monitoring. It targets coarse sand, organisms and humus.
Sand filtration	Two parallel WATEX QC pressure-filter columns with manual backwashing and filtration to approximately 1 µm. One column can remain in service while the other is flushed.
Activated carbon	Two WATEX MC activated-carbon columns with manual backwashing for adsorption of organic compounds, petroleum products and odours, and additional protection of the reverse-osmosis membranes.
Reverse osmosis	WATEX WRO2000, nominal production up to 2,000 L/h, with a stainless-steel frame, WILO high-pressure pump, stainless-steel and PVC piping, control units, online water-quality measurement and poor-water-quality alarm indication.
UV module	WATEX UVS45 after the clean-water reservoir and before distribution when included in the delivered configuration. Confirm inclusion and operating limits in the signed project documentation.
Clean-water distribution	A second-stage Grundfos pump supplies clean water from the reservoir for filling or dispensing, up to the verified project flow.

Configuration note

MWTP2000 is a project-configured system. The photographs and treatment sequence describe the verified product concept; the delivered equipment, arrangement and set points are governed by the signed project documentation.

Performance qualification

The stated reduction of contaminants by up to 98% is conditional on the selected treatment configuration, raw-water composition and operating conditions. It is not a universal contaminant-removal guarantee. Final water quality, output, recovery and maintenance intervals must be confirmed from the project design, commissioning tests and ongoing water analyses.

Commissioning and operation

1	Confirm a representative raw-water analysis and the required treated-water specification before final configuration.
2	Verify the project-specific process order, valves, sampling points, instruments, set points and electrical supply against the approved drawings.
3	Commission each treatment stage separately before operating the complete train.
4	Record feed-water and product-water quality, flows, pressures and alarms during commissioning.
5	Operate only within the limits documented for the delivered configuration and its individual components.

Planned maintenance

1	Inspect pumps, piping, valves, electrical equipment, instruments and leak points at the project-defined interval.
2	Backwash or service the pre-treatment units according to pressure loss, water quality and the component manuals.
3	Replace filtration media and cartridges according to condition, operating hours and the approved maintenance plan.
4	Replace UV lamps only if the delivered configuration includes a UV module, and follow the UV component manual and approved maintenance plan.
5	Replenish antiscalant only when the delivered configuration includes dosing, and follow its product-specific instructions and safety data sheet.
6	Retest water quality after maintenance, configuration changes or a material change in the raw-water source.

Technical support

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