

Installation and use manual

WATEX ***MQ and CTQ 8/9/10/12/13/14*** **WATER FILTERING EQUIPMENT**



Before use please read the manual carefully!

Contents

INTRODUCTION.....	3
EQUIPMENT TECHNICAL DESCRIPTION.....	3
MAIN TECHNICAL PARAMETERS	4
RELOCATION	5
SYSTEM OPERATION.....	7
System components.....	7
Control unit	8
System operation	9
Service cycle.....	9
Backwash cycle	9
INSTALLATION.....	10
General conditions.....	10
Water supply connections	11
Drain connection	11
INITIAL START UP	12
PROBLEMS AND SOLUTIONS	12
RECOMENDATIONS	14
WARRANTY TERMS AND CONDITIONS.....	15

INTRODUCTION

We hope that the water treatment technology we offer will provide you with the comfort of clean water, save money and reduce the problems caused by dirty water. The WATEX MQ and MC series combine the latest technological solutions. In addition, the machine is easy to operate as no special controls are required. The machine will perform its functions if the requirements specified in this technical manual are met.

EQUIPMENT TECHNICAL DESCRIPTION

The WATEX MQ and WATEX series devices are meant for reduction of mechanical impurities, it is based on filtration media that filters mechanical admixtures from water. These filters can be used in household and industrial systems, which use heavily mechanically contaminated water. Such water would be uneconomic to clean with traditional cartridge type mechanical filters because of their capacity it too small and would have to be changed very often.

In water supply systems are often observed turbid water caused by water pipe repair, disconnection or cleaning etc. Turbid water may contain sand, mud, iron, organics and various debris that clogs the system, affects the plumbing equipment, measuring devices and creates additional pressure losses.

The device consists of a column and manual control unit. The column is packed with filter material.

WATEX MQ and WATEX CTQ models are filled only with - quartz sand of different fractions.

The hand control unit ensures rinsing of the filter material, removal of accumulated sediment.

The rinsing of the machine is ensured by moving the control lever to the rinsing position.

The frequency and duration of rinsing depend on the degree of contamination.

It is recommended to install pressure gauges before and after the machine to check the pressure drop. If excessive pressure losses occur, flush the filter.

Prerequisites for normal operation of the equipment:

- Sewerage connection
- Water pressure above 2.5 bar.
- Room temperature above 0 ° C
- Water temperature up to 25 ° C
- Correct system connection

MQ SAND FILTER TECHNICAL DATA

Technical parameters of equipment	Unit	Model				
		MQ-9	MQ-10	MQ-12	MQ-13	MQ-14
Flow rate * Q_{nom}	m ³ /h	0.82	1.0	1.5	1.7	2.0
The amount of water for regeneration **	liters	180	205	245	285	345
Minimum flow rate for rinsing	m ³ /h	0.8	1.0	1.5	1.7	2.0
Container size (diameter)	inches	9	10	12	13	14
	m	0.23	0.25	0.30	0.33	0.36
Container volume	liters	32	64	85	110	145
The amount of filtering material	liters	25	40	55	70	100
Dimensions						
Lenght	m	0.28	0.28	0.30	0.46	0.46
Width	m	0.28	0.28	0.30	0.46	0.46
Height	m	1.31	1.53	1.48	1.53	1.85
Connection. in /ext/kan.	inches	1"	1"	1"	1"	1"
Filtration		Turbidity				
Container material		FRP (fiberglass)				
Filtering material		Silica sand 0.4x0.8 mm, 1x3mm, 3x5 mm				
Operating pressure	bar	2-6				

* Filtration speed 20 m/h

** Backwash 10 min

CTQ SAND FILTER TECHNICAL DATA

Equipment technical specifications	Unit	Model					
		CTQ8	CTQ ₉	CTQ10	CTQ12	CTQ13	CTQ14
Flow rate* Q _{nom}	m ³ /h	0.6	0.82	1.00	1.46	1.70	2.00
Minimum backwash intensity	m ³ /h	0.7	0.8	1.0	1.5	1.7	2.0
Tank size (diameter)	inches	8	9	10	12	13	14
	m	0.20	0.23	0.25	0.30	0.33	0.36
Tank volume	liters	25	32	64	85	110	145
Amount of filtering media in the tank	liters	15	25	40	55	70	100
Total dimensions of the equipment							
Length	m	0.20	0.28	0.28	0.30	0.46	0.46
Width	m	0.20	0.28	0.28	0.30	0.46	0.46
Height	m	1.01	1.31	1.53	1.48	1.53	1.85
Water connection inlet/outlet/drain	inches	1"					
Filtration capabilities	Turbidity, coarse particles, sand, oxidized iron and manganese.						
Tank material	FRP (fiberglass) with PE inner lining						
Filter media	Quartz sand 0.4 x 0.8 mm, 1 x 3 mm, 3 x 5 mm						
Operating pressure	bar	2.5 – 6.0					

* Filtration rate 20 m/h

RELOCATION

Note that the water filter is heavy and fragile, the fiberglass tank does not withstand mechanical shocks.

Any mechanical shock can affect the operation of the filter.

It is not recommended to swing or shake the device or turn it upside down, as this may cause the layers of filter material that have been filled inside to mix with each other and cause some of the filter material to leak out to consumers and prevent the device from operating normally.

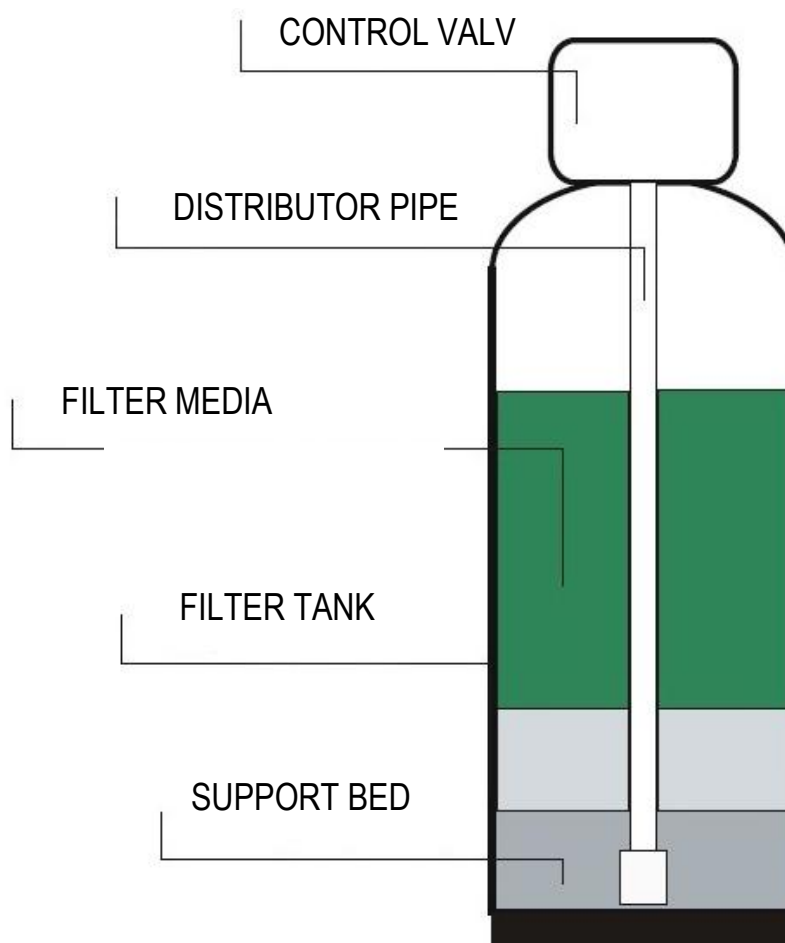
The machine can be moved to a horizontal (lying) position.

Move the machine with the truck! If this is not possible, move it in pairs by hand.

When moving by hand, it is recommended to hold it at the top behind the control unit housing (where the control unit connects to the tank) and at the bottom behind the blue fiberglass tank.

SYSTEM OPERATION

1.1. *System components*



The water filter has three main components: a filter material tank, a filter material, and a control unit. The filter tank is made of polyethylene and reinforced on the outside with a glass fiber winding to maintain a pressure of up to 10 atm. Gravel fractions of different sizes are poured into the tank as a support layer. The lower part is specially designed gravel with a fraction size of 3.0x5.0 mm, followed by gravel with a fraction size of 1.0x3.0 mm. These layers mainly serve as a support for the filter material to prevent it from entering the water supply system after the filter. During backwash, it serves to distribute the water stream evenly to spread the filter material over the entire filter area.

The tank is also fitted with a collecting pipe, the lower part of which has a sieve with a certain mesh size to prevent the filter material from entering the water supply system. The treated water is fed from the bottom up to the control unit and then to the consumers.

Control unit



The unit has a control unit screwed onto the filter tank, which ensures that the filter material is backwashed and the accumulated dirt is discharged to the sewer. The control unit is made of plastic alloy. The control unit has a control lever that has two positions: service cycle and a backwash cycle.

If rinsing is required, raise the lever.

When rinsing is complete, the lever is lowered to switch to the service cycle.



To the consumers flow.

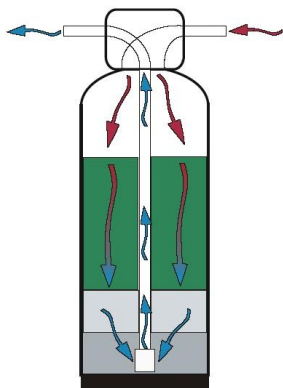


Backwash cycle to the drain.

System operation

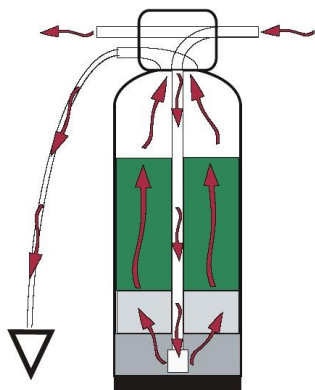
The machine has two main operating cycles - service and a backwash cycle.

Service cycle



In the service cycle, the water is fed to the control unit via the raw water inlet, then flows into the filter tank from above and then flows through the filter material, purifying the water and then back to the control unit via the collector pipe and then to the consumers.

Backwash cycle



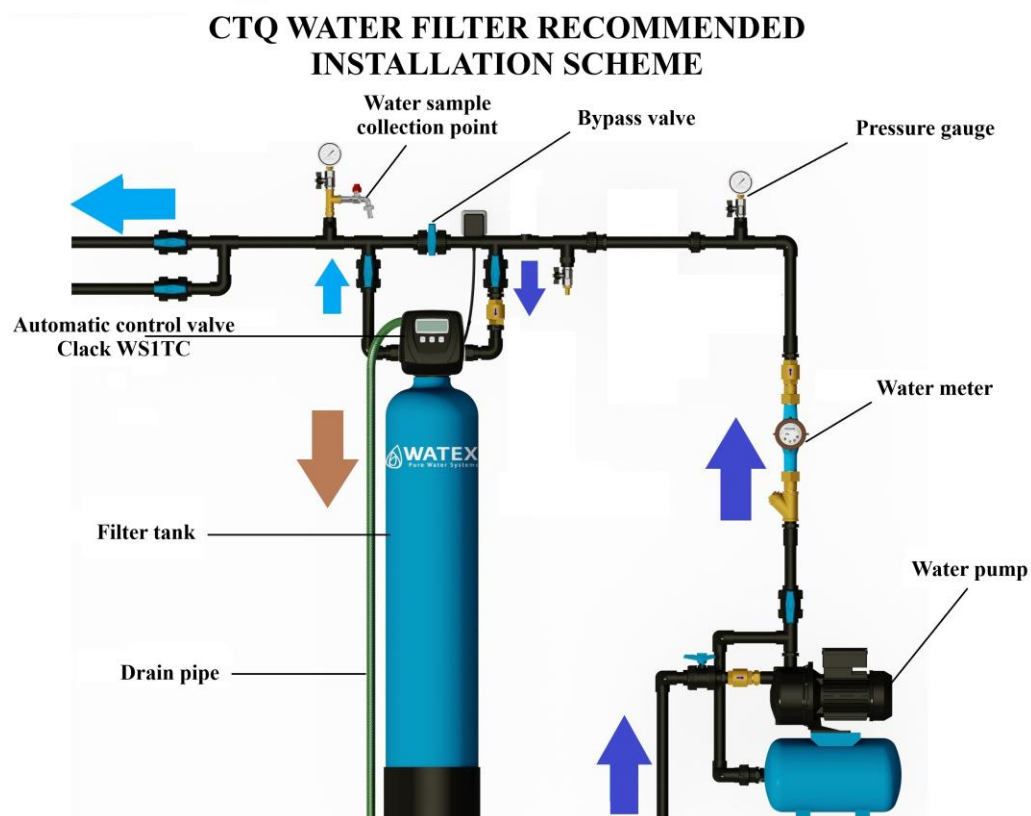
The equipment requires a backwash rinsing cycle to remove accumulated substances (iron, manganese, sludge, sand, clay particles, etc.) from the filter and restore the capacity of the filter material.

The frequency of rinsing is determined by the operator himself, based on daily observations.

It is recommended to install a manometer before and after the filter to check the pressure drop and perform rinsing afterwards.

The rinsing time is recommended to be at least 10 minutes

INSTALLATION



General conditions

Tanks must be on a level, level surface.

The control unit and connection fittings are not designed to support the weight of the water supply system.

All sanitary and technical works must be carried out in accordance with the law.

The equipment must provide a continuous supply of water, the quality of which does not differ between 30% and the pressure between 2.5 and 6.0 bar.

Ensure that the temperature does not exceed +40 °C.



The room temperature must not be lower than +2 °C and higher than 45 °C.

Do not use Vaseline, oil, hydrocarbon grease, or aerosol silicone on the machine's connections. Silicone grease can be used on black o-ring seals, but it is not required.

Nuts and sleeves are designed to be unscrewed or tightened by hand.

Pliers can be used if it is necessary to loosen tightened nuts or sleeves. Handle with care, do not damage plastic parts. Do not use a wheel wrench to tighten or unscrew nuts or sleeves. Do not insert a screwdriver into the holes in the sleeves and do not strike with a hammer!

Water supply connections

There are water connection points at the rear of the water treatment plant. Inlet and outlet are indicated by arrows for each connection. If you look at the machine from the front, there is an inlet on the right and an outlet on the left. The size of the external thread of the water supply connection to the unit is 1 " (inch) for inlet, outlet and sewer connection. The plastic threaded fitting is bolted type and can rotate freely on the ring while maintaining tightness. Therefore, it is not necessary to tighten the screws on the control unit housing very strongly (enough force by hand).

Teflon tape must be used on the plastic threads.

There is no significant difference in the material of the pipes that connect to the equipment. The main thing is that the appliance does not have to carry the weight of the water supply system.

The device can be connected with fusible, glued, screwed plastic pipes. It can also be made with flexible metal pipes or brass solder.

Note: Soldered pipes must be soldered before attaching them to the plastic fittings on the control unit. Failure to do so may result in internal damage to the plastic fittings and failure to provide a seal.

Solder fittings must first be cooled. Avoid getting solder grease on any part of the fitting.

It is recommended to install a bypass tap on the water filter as shown in the illustration and taps before entering and leaving the tap.

In normal operation, the bypass tap is closed and the inlet and outlet taps are open.

If the appliance is undergoing preventive maintenance or needs to be repaired, it is possible to supply the water directly to the consumers untreated.

It is also recommended to install a sampling tap before and after the equipment to determine the water quality of the untreated and freshly treated water. It is also recommended to install manometers before and after the machine to monitor the pressure drop in the machine.

Drain connection

The filter requires a connection to the sewer for regular flushing of the appliance. During rinsing, the accumulated dirt (mud, iron, sand, clay, etc.) is removed from the machine.

We recommend using a garden hose to drain the rinsing water from the unit to the common drainage system.

Important: Make sure that the drain hose does not fall out during rinsing. Secure it!

Important: Make sure that the garden hose is not kinked or crushed, as this will reduce the flow of rinsing water and may result in incomplete rinsing, which can lead to poor water quality.

The sewer pipe can be placed about 0.5 meters higher than the total control unit, but then during the first flushing must be followed if a proper flushing of the equipment takes place.

If full flushing does not take place, consultations with the technical center of Watex Estonia OÜ.

Important: The drainage self-flow pipe must not be smaller than D40.

Important: Never insert the drain directly into a sewer or receiver. Always provide air between the drain and the tank so that drain water is not pushed back to the filter.

Important: To prevent sewage odors and bacteriological contamination from the drain entering the unit, create a hydraulic seal or siphon before entering the sewer system.

INITIAL START UP

Perform the first start-up in the following order:

1. Carry out the installation work of water supply and sewerage pipes.
2. Place the machine in its place.
3. Before start up it is essential to close the outgoing water ball valve
4. Slowly open the valve installed at the water inlet and fill the filter with water to equalize the pressure.
5. Then close the incoming water ball valve and open the control unit lever in flush mode.
6. Slowly open the incoming water ball valve, check the drain outlet if the filter material is not flushed out.
7. Rinse the filter until clear water appears in the drain.
8. Switch the control unit lever to the service cycle
9. Open the outgoing water ball valve.

Pleasant use of clean water!

PROBLEMS AND SOLUTIONS

PROBLEMS AND SOLUTIONS

Problem	Possible Causes	Solution
1. The timer does not	a. Transformer pulled out	a. Connect the power supply

display the time.	b. No electricity in the socket	b. Repair the socket or use a different socket
	c. Damaged transformer	c. Replace the transformer
	d. Damaged electronic board	d. Replace the electronic board
2. The timer does not show the correct time.	a. Socket has been turned off	a. Reset the time
	b. Power outage	b. Reset the time
	c. Damaged electronic board	c. Replace the electronic board
3. The control unit performs regeneration at the wrong time.	a. Power outages have occurred	a. Set the correct time on the control unit
	b. Incorrect time set	b. Set the correct time
	c. Incorrect regeneration time	c. Reset the regeneration time
	d. Control unit set for immediate regeneration	d. Check the control unit installation procedures for the regeneration time option
4. Error with code number: 1001 or E1 – Unable to recognize the start of regeneration. 1002 or E2 – Unexpected stop. 1003 or E3 – Motor runs too long, trying to adjust to reach the next regeneration cycle position. 1004 – Motor runs too long, trying to adjust to reach the initial position. If any other code appears, please contact Watex Estonia OÜ staff.	a. Control unit has just been serviced	a. Press and hold SET and ▽ for 3 seconds or unplug the power cord and plug it back in to reset the control unit
	b. Something stuck in the control unit	b. Check the plunger and spacer block for any jams
	c. High drive pressure pushing on the plunger	c. Replace plunger(s) and spacer block components
	d. Control unit plunger not in home position	d. Press and hold SET and ▽ for 3 seconds or unplug the (black) power cord and plug it back in to reset the control unit
	e. Motor not fully engaged to reach drive gear, motor wires damaged or disconnected, motor failure	e. Check the motor and wiring. Replace the motor if necessary
	f. Drive mechanism label damaged or dirty, mechanism missing or broken	f. Replace or clean the drive mechanism
	g. Drive base incorrectly inserted into the plate	g. Thoroughly check the drive bracket
	h. Electronic board damaged or defective	h. Replace the electronic board
	i. The electronic board is improperly connected to the drive base	i. Make sure the electronic board is securely connected to the drive bracket
5. The control unit has stopped during regeneration	a. The motor is not working	a. Replace the motor
	b. No electricity in the socket	b. Repair the socket or use a different socket
	c. Damaged transformer	c. Replace the transformer
	d. Damaged electronic board	d. Replace the electronic board

	e. Damaged drive mechanism or drive cover component	e. Replace the drive mechanism or drive cover component
	f. Damaged plunger holder	f. Replace the plunger holder
	g. Damaged main plunger or regeneration plunger	g. Replace the main plunger or regeneration plunger
6. The control unit does not perform regeneration automatically	a. Transformer has been unplugged	a. Plug the transformer into the socket
	b. No electricity in the socket	b. Repair the socket or use a different socket
	c. Damaged drive mechanism or drive cover component	c. Replace the drive mechanism or drive cover component
	d. Damaged electronic board	d. Replace the electronic board
7. The time is blinking: appears and disappears	a. Power outage lasted longer than 2 hours, transformer was unplugged and then plugged back in, transformer plug was unplugged and then reconnected to the board to reset the control unit	a. Reset the time
8. Deterioration of water quality	a. Insufficiently backwashed filter media	a. Check the backwash intensity
	b. Activated carbon capacity (resource) exhausted in the CTC model	b. Replace the filter media
	c. Incoming water quality has changed	c. Check the water quality, send water samples for laboratory testing
9. Condensation on the tank	Cold water in the tank and warm air in the room cause condensation to form on the surface of the filter tank.	Install condensation insulation, which can be purchased from the veefiltrid.ee online store

RECOMENDATIONS

It is recommended for annual maintenance of the equipment.

The frequency of changing the filter material for the equipment depends on the quality of the incoming water.

If the quality of the incoming and outgoing water does not differ, this is the right time to check the quality and replace the filter material. Water pressure drop before and after filter is indication that flushin or filter media change is necessary.

WARRANTY TERMS AND CONDITIONS

The warranty period specified by the manufacturer for the equipment you purchased is 24 (twenty-four) months.

The equipment must undergo regular maintenance at least once a year.

Warranty obligations are provided in accordance with the manufacturer's warranty terms stated in the product's technical manual and the supplier's conditions outlined below. The supplier provides a technical manual with each product – in the original language, unless otherwise requested. The buyer is responsible for adhering to the technical specifications of the product and for its proper use.

Warranty obligations apply only in cases where the product has defects caused by the manufacturer and the user has used the product in accordance with the instructions specified in the technical manual. In such cases, defects are remedied at the supplier's expense, i.e., by Watex Estonia OÜ.

Warranty obligations do not apply in the following cases:

1. The product is mechanically damaged or the manufacturer's labels are tampered with;
2. The product is kept in unsuitable conditions;
3. User rights have been violated, e.g., the product has been disassembled or repaired by the user;
4. The product is damaged as a result of force majeure: such conditions include circumstances beyond the control of the buyer and supplier, which they could not foresee and cannot prevent through reasonable actions (these include fires, floods, earthquakes, acts of war, monetary reforms, etc.);
5. If the product was not installed by the supplier, then during the warranty period the defective product must be delivered by the buyer to the Watex Estonia OÜ office; if the product was delivered, installed, adjusted, and commissioned by an official representative of Watex Estonia OÜ, the warranty is provided on-site at the customer's location.

For warranty-related matters, please contact the responsible persons at Watex Estonia OÜ.