

# COMPLETE WATER TREATMENT AND DRINKING WATER LINE



**REFERENCE : MP32-MP43-MP50**

Deltalab-SMT offers a complete line for the treatment of wastewater and effluents before discharge into nature and for the purification of effluents or water taken from the environment.

The complete line is controlled by a console connected by wifi. The data can be downloaded with a simple USB key in Excel format.

## Technical specifications :

### MP43 /

- A feed bin with cover and on casters
- An aeration basin with two overflow levels with cover
- A variable speed agitator
- A ventilation assembly with a diffuser, an air compressor and its air flow meter
- A peristaltic pump for the supply of substrate with variable flow rate on a sequencer and its flowmeter
- A dissolved oxygen measurement probe and its transmitter
- Threshold regulation of aeration slaved to the measurement of dissolved oxygen
- A combined pH / Redox measurement probe with its transmitter
- A conical bottom settling basin
- A control cabinet regrouping the on / off controls of the pump, compressor and agitator. The cabinet includes the oxygen sensor transmitter the pH / Redox transmitter
- The connections are made of PVC and the assembly is mounted on a stainless steel frame, aluminum nuts.

### MP50 /

Coagulation consists in eliminating the charges present on the colloids to form larger particles which can more easily sediment by flocculation. The elimination is carried out in the subsequent solid-liquid separation step: settling. Under the action of gravity, solid particles heavier than the liquid sediment. This process makes it possible to clarify high flow rates of solution.

This installation offers the possibility of varying the volume flow of the sludge and of using the levels of reagents obtained experimentally thanks to the jar-test.

The driver is composed of:

- Flocculant feed container
- Coagulant feed container

*Non contractual photo*

**SERVICE : POWER SUPPLY: 220V / 230V,  
SINGLE PHASE, 1000W RECOMMENDED  
PRODUCTS: ACTIVATED SLUDGE OR  
ENZYMES SUBSTRATES  
DIMENSIONS : APPROX 1700 X 700 X 2000  
MM FOR EACH  
WEIGHT : 250KG EACH**

- Two-stage coagulation-flocculation tank in transparent PVC
- Lamellar settling tank in transparent PVC with tilting and retracting slats
- Feed tank for the preparation of synthetic solutions
- 2 Variable speed agitators
- Two pumps for adding reagents
- Agitation and feed circulator to be treated
- 3 float flowmeters (flocculant, coagulant, feed)
- Pump control electrical cabinet with protections, agitator control, reagent supply and sediment recycling timers. This cabinet also includes a PLC which is relayed to the general control system by wifi.

### **MP32 /**

This unit connects to the MP50 coagulation-flocculation-settling unit.

This unit allows the study of filtration thanks to the piezometric tubes placed along the sand column (Study of Darcy's law, of the porosity of the sand bed, of the permeability as a function of the height of water, filter clogging, backwash efficiency). With sand filtration you can also implement the iron removal process by oxidation with bleach or the appropriate flocculant and dechlorinate and / or decolorize with the activated carbon filter by controlling the chlorine rate continuously at the outlet of column. The drinking water can be finalized by a treatment with UV.

The driver consists of:

- Two tanks (supply of product to be treated and intermediate tank before activated carbon filter)
- Disinfection station consisting of: A chlorine storage tank; A tank to adjust the chlorine; A chlorine dosing pump; A feed pump for the chlorine measuring circuit; An agitator; A continuous chlorine measurement probe and its transmitter with 4-20 mA output and 2 relay outputs
- An Altuglass column (sand filter)
- A battery of piezometric tubes for measuring pressure losses, mounted on a graduated panel
- A column in Altuglass (activated carbon filter)
- A pressure gauge
- A centrifugal feed pump for sand filter
- Centrifugal feed pump for activated carbon filter
- Two flowmeters
- Two Low Level safety devices to stop the pumps (the high level safety is ensured by overflows on the tanks)
- The assembly is mounted on a stainless steel frame, the pipes are in PVC.
- The control cabinet includes the safety relays and the protection of the three pumps.

### **OPTIONS :**

MP43: Option 1: secondary settling tank. This option is recommended for the use of treated water in a drinking water supply chain. Option 2: agitation system in the feed tank comprising: a circulator and a level probe. This option is recommended if the solution to be treated has a high level of suspended matter. Option 3: sludge recycling. This option is recommended for a long process. Option 4: scraper in the cylindrical-conical settling tank. Option 5: pH regulation system by thresholds comprising: a container of basic solution, a diaphragm metering pump and regulator. Option 6: temperature regulation system comprising: an

immersion heater and a regulator. Option 7: data acquisition system comprising: an RS485-ethernet gateway, an Ethernet port, acquisition software and a laptop PC. Option 8: remote supervision system (supplied with a PC, PLC and software). Manual valves are replaced by solenoid valves. MP50: Option 1: pH measurement and regulation system, with 4-20 mA outputs, 2 thresholds, 2 fixed speed pumps Option 2: Turbidity measurement system in the settling tank with turbidity probe, transmitter and set of 2 solenoid valves Option 3: Settled sediment recycling pump and flowmeter Option 4: pH measurement system with probe and transmitter Option 5: Agitator for the coagulant canister