GPBT40

PHYSICO-CHEMICAL TREATMENT COAGULATION-FLOCCULATION-DECANTATION

Experimental capabilities

- **Visualization and understanding of the water treatment process**
- **Study of flocculation**
- **Study of chemical neutralization of water with pH measurement**
- **Influence of the variation of the feed flow rates and of recycling of the sludges**

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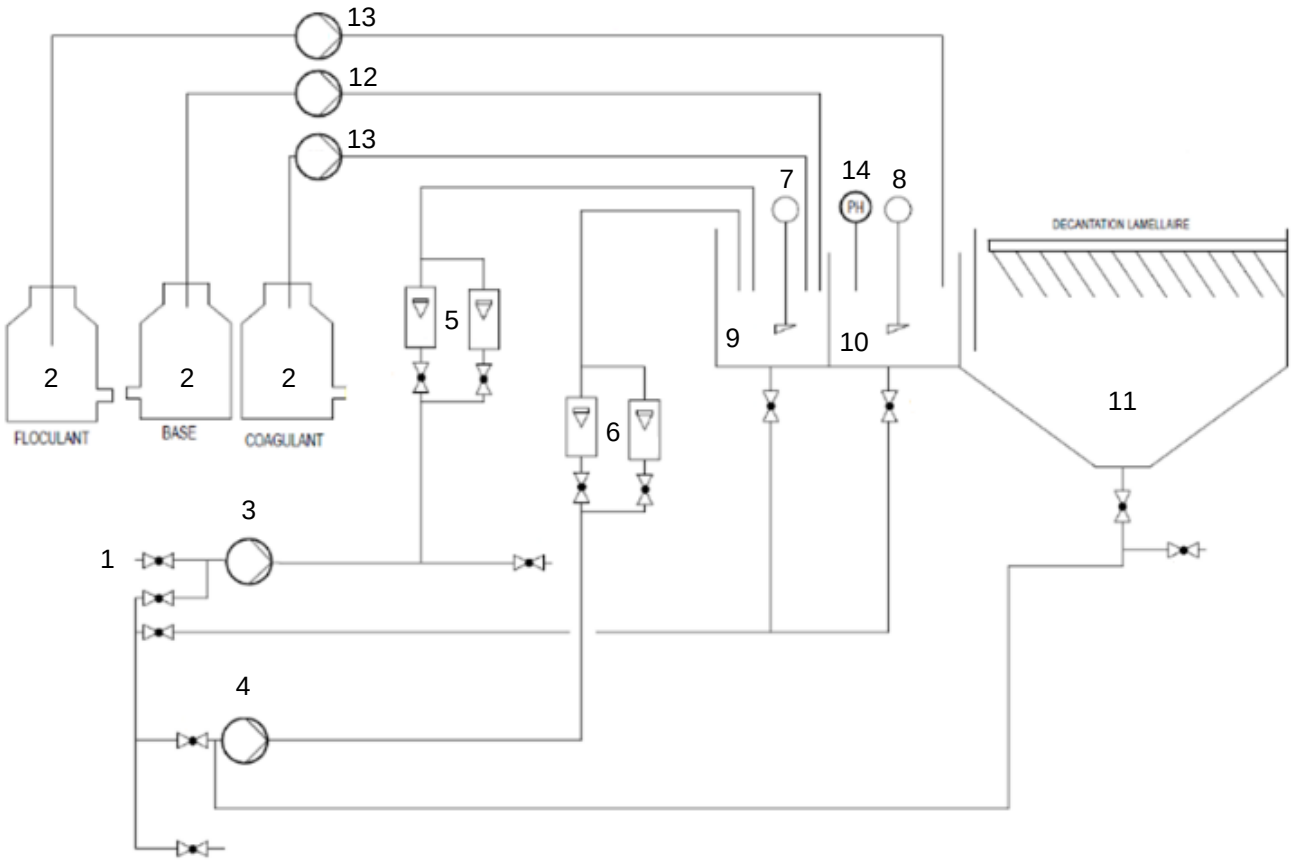
version : FT-GPBT40-STD-F

GPBT40

Operating principle

The GPB T40 bench allows the study of the physico-chemical treatment.
The raw water (or wastewater) is stored in a buffer tank. A centrifugal pump will transfer it to first bin (coagulation bin). This bin is also supplied by a pump which injects a coagulant product. An agitator ensures the homogeneity of the solution.
The water is then cast by overflow into a second bin (flocculation bin). This bin is also supplied by a pump which injects a flocculant product. An agitator ensures the homogeneity of the solution.
The water is then poured into a third overflow bin (decantation bin). Water containing the flocs will rise to traverse the slats. The flocs will then be deposited on the slats and fall by gravity to the bottom of the decantation tank. The treated water will come out from the top of the slats and flow by overflow in the vent duct.
The robust design of this device makes it suitable for use in schools.
The equipment is set up on an Anodized aluminum frame on casters wheels. This gives it great strength and a flexibility of integration into your premises. The manufacture of this equipment complies with the European standard for machinery manufacturing. This equipment can be used alone or with other compatible equipment from our range (see last section of this document).

Illustrations



GPBT40

Technical specifications

1. Supply tray raw water
- Material: Polyethylene
- Minimum volume: 200L
- Drain valve

2. Reagents supply tray
- Material: polyethylene
- Three trays of minimum volume 20L
- A drain valve for each tray

3. Raw water supply pump
- Maximum flow rate: 900L /h
- Maximum pressure: 0.8 bars

4. Recirculation pump
- Maximum flow rate: 900L /h
- Maximum pressure: 0.8 bars

5. Float flowmeters raw water
- Material: PVC
- A flowmeter 10-100L/h, control valve
- A flowmeter 50-500L/h, control valve

6. Float flowmeters Recirculation pump
- Material: PVC
- A flowmeter 10-100L/h, control valve
- A flowmeter 50-500L /h, control valve

7. Coagulation Flocculation agitator
- 40-2000rev/ min
- Maximum torque 70 Ncm
- Stainless steel stem

8. Flocculation agitator
- 40-2000rev /min
- Maximum torque 70 Ncm
- Stainless steel stem

9. The coagulation basin
- Blue PVC
- Minimum volume: 5L
- Plunging supplies
- Recirculation
- Drain valve
- Overflow towards flocculation basin
- Profiled agitation propeller diameter 66mm

10. Flocculation basin
- Blue PVC
- Minimum volume: 40L
- Plate of flux orientation
- Drain valve
- Overflow towards the decantation basin
- Agitation blade adapted to the flocculation diameter 208mm

11. Decantation basin
- Blue PVC
- Minimum volume: 100L
- Triangular base
- Two overflow tubes adjustable in height and adjustable inclination
- 18 slats in PVC blueish
- Inclination of slats: 60 °
- Minimum surface of the slats: 1.3m²

12. Peristaltic pump soda
- Maximum flow rate: 10L/h
- Maximum pressure: 2 bars
- External control via pH controller

13. Peristaltic pumps coagulant / flocculant
- Two pumps
- Minimum flow rate: 10L/h
- Maximum pressure: 2 bars
- Manual adjustment of the speed

14. pH probe / temperature
- Measuring range 0-14 pH
- Operating temperature: -5 to 60 °C
- Immersion mounting bracket
- Located in the flocculation basin

15. This unit is set up on a frame made of aluminum profile with 4 wheels. It includes an electrical cabinet with main switch and differential circuit breaker.

Services required

- Electrical supply: 230 VAC – 50 Hz – 20 A
- Electrical network: 1 phase + Neutral + Earth
- Water supply: filling of the tanks - 15 L/min – 3 bars
- Water drain: on the floor
- Dimensions: (LxWxH mm): 1950 x 790 x 1900
- weight (Kg): 280

Note: if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Electrical diagram
- Hydraulic diagram
- Certificate of conformity CE

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