



Coagulation - flocculation - settling processes are generally used to separate colloids from water, as in this case natural settling speed is too slow to obtain a sufficient clarification. Tesca Coagulation, Flocculation and Settling Pilot Plant 32482 enables to study the coagulation, flocculation and settling processes separately or simultaneously and it mainly consists of a stirred feed tank, of two tanks for flocculant and coagulant, of a stirred coagulation tank, of a stirred flocculation tank and of a plate settler.

Process control, data acquisition and supervision are automatically carried out by a microprocessor controller and by a specific control and supervision software that enables the remote control of various operational parameters.

Specifications

Framework of AISI 304 stainless steel with castors

- Cylindrical feed tank of transparent methacrylate for the water to be treated with submersible pump and capacity of 300 l
- Feed tank of transparent methacrylate for coagulant with capacity of 60 l
- Feed tank of glass for flocculant, provided with hot-plate magnetic stirrer, with capacity of 0.5 l
- Coagulation reactor of borosilicate glass, equipped with motor-driven stirrer (0 to 300 r.p.m.), with capacity of 301
- Flocculation reactor of borosilicate glass, equipped with motor-driven stirrer (0 to 100 r.p.m.), with

Note: Specifications are subject to change.

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capacity of 8 l

- Rectangular settler of transparent methacrylate with conical bottom and movable plates for its operation in cocurrent and counter-current
- Flowmeter of AISI 304 stainless steel for measuring feed flow rate with range of 30 to 300 l/h
- Flowmeter of coagulant feed with range of 2 to 20 $\ensuremath{I/h}$
- Feed screw pump with casing and screw of AISI 316 stainless steel and flow rate of 0 to 200 l/h
- Electronic frequency variator for screw pump
- Gear feed pump of AISI 316 stainless steel for coagulant, with flow-rate of 0 to 50 l/h
- Metering pump of flocculant, with flow rate of 0 to 200 ml/h
- Switchboard IP55, complying with EC conformity mark, including plant synoptic and ELCB Besides being provided with all the technical characteristics of ENV 014, this model also includes the following additional equipment:
- Digital microprocessor PID controller, with two control loops
- Optional Supervision software for Windows: it enables to control ON-OFF signals, analog signals coming from PID controller, real- time trend and historical trend

Experiments

The process unit enables to develop and analyze the following issues:

- Coagulation
- Flocculation
- · Co-current and counter-current settling
- Characteristics of coagulant and of flocculants
- Optimization of coagulation flocculation and settling processes
- Automatic PID control
- plant supervision

Mains Power

• 220 - 240V 1Ph, 50Hz

