

# AEROBIC WATER TREATMENT PILOT PLANT

## Mod. MFA-3/EV



ECOLOGY

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36B-E-BT-MFA3-0

## INTRODUCTION

The activated sludge pilot plant consists of an oxidation reactor and of a settler according to the traditional diagram of single-stage sewage treatment process.

Biomass is oxidized in a reactor with agitator by the air blown by a compressor. The processed liquid is sent to the settler through an overflow. The sludges settling at settler bottom are recycled by a recycle pump into the oxidation tank.

## TRAINING PROGRAM:

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

- Purification efficiency versus the following parameters:
  - composition of water under to be treated
  - residence time
  - organic load
  - pH in oxidation tank
  - concentration of dissolved oxygen

## TECHNICAL CHARACTERISTICS:

- Framework of AISI 304 stainless steel with castors
- Feed tank with capacity of 300 l
- Cylindrical oxidation reactor of AISI 304 stainless steel, with capacity of 60 l, including an inspection window of transparent methacrylate and three overflows at different heights to vary reactor volume
- Agitator of AISI 304 stainless steel with geared motor
- Settler of AISI 304 stainless steel, with capacity of 30 l, provided with inspection window of transparent methacrylate
- 2 magnetic drive gear pumps (for feeding and recirculation), with body of AISI 316 stainless steel, flow-rate 0 to 60 l/h
- Air compressor with body of stainless steel, flow rate of 1.5 Nm<sup>3</sup>/h
- Air diffuser of AISI 316 sintered stainless steel
- 2 magnetic-induction flowmeters (for feeding and recirculation) with range of 0 to 60 l/h and 4 to 20 mA output signal
- Flowmeter for measuring air flow rate to oxidation reactor, with micro-valve; range of 0 to 180 NI/h
- Thermoresistance Pt 100 with board-type digital temperature indicator
- Microprocessor-type electronic dissolved oxygen indicator-transmitter, with range of 0 to 10 ppm
- Microprocessor-type electronic pH indicator-transmitter, with range of 0 to 14 pH
- Digital indicator of feed flow rate
- Digital indicator of sludge recycle flow rate
- Connecting lines and valves of AISI 304 and 316 stainless steel
- Switchboard IP55, complying with EC conformity mark, including plant synoptic and ELCB

**Power supply:** 230 Vac 50 Hz single-phase - 1 kVA  
(Other voltage and frequency under request)

**Dimensions:** 1550 x 670 x 1870 mm

**Weight:** 250 kg

### REQUIRED

#### UTILITIES (PROVIDED BY THE CUSTOMER)

- Tap water (valve with ½" hose connector)
- Water floor drain

### SUPPLIED WITH

#### THEORETICAL – PRACTICAL – EXPERIMENTAL HANDBOOK



### VARIATIONS OF THE PLANT UPON REQUEST:

This equipment can be modified upon specific request of the Customer.