

ANAEROBIC DIGESTION PILOT IN STIRRED TANK

REFERENCE : MP30



Non contractual photo

SERVICE : POWER SUPPLY: 380 V THREE-PHASE + T, P = 6.5 KW - 50 HZ WATER GROUND EVACUATION
DIMENSIONS : 2 300 X 1 000 X 2 020 MM

WEIGHT : ~ 250 KG

The pilot plant consists of a stainless steel reactor with flange. The inner bottom is slightly conical. The upper bottom is curved and acts as a gasometric bell. The shell of the tank has a double jacket in which circulates hot water supplied by a thermoregulator whose temperature control is performed relative to the temperature measurement in the tank.

Substrate feed and sludge recycling are provided by two peristaltic pumps with timer. The weight of biogas produced is measured by a mass flow meter. PH and redox potential are measured on the recycling loop.

An additional module makes it possible to add semisolid substrate by dilution in a stirred buffer tank.

A PC acquisition is developed under Labview. A synoptic of the installation with real-time display of the parameters (pH, rH, temperature and gas weight) makes it possible to visualize the operation of the station, the archiving of the values ??being possible. A timer pump is used to inject antifoam at specific time intervals.

- Determination of the purification efficiency (BOD and DOC of the treated effluent)
- Relationship between biogas production and wastewater efficiency
- Variation of the temperature of the digester and verification of the purification efficiency
- Determination of optimal production and purification conditions, by varying a certain number of operational parameters of the installation such as: pH, rH, sludge recycling ratio and age of sludge
- Real-time display on synoptic of operating parameters

Technical specifications :

- Structure in stainless steel AISI 304.
- Anaerobic reactor, stainless steel version.
- Automatic liquid heating system, by circulation of hot water in the double jacket
- Water heater group 95 ° C, 6 kW
- PT100 probe, regulator
- Peristaltic pump for feeding sludge, flow rate 0-15 l / h
- Peristaltic pump for substrate recycling, flow rate 0-15 l / h
- A timer pump is used to inject antifoam at specific time intervals.
- PH Transmitter / Regulator
- RH Transmitter / Regulator
- Temperature display
- Manometer
- Mass flow meter,
- Slow stirrer with helical geared motor
- Variation of the electronic speed. Sealing with the passage of the shaft by garnish
- Stainless steel capacity decanter for the introduction of sludge.
- Electrical cabinet IP55, including emergency button, transformers, 24V relay, protection and control of pumps, display, regulators, protection and control of the agitator and the heating group
- Connection lines and valves, stainless steel AISI 304-316 and PVC

- construction
- Technical manual

OPTIONS :

Option 1: Acquisition Module: An RS 485 - RS232 converter; 4 4-20 mA conversion modules , RS485; Runtime of the acquisition software; Acquisition of the parameters rH, pH, temperature, volume of gas; PC not provided Option 2: Additional module for infiltration of semi-solid substrates with agitated tank (A) and level detector