



Product Code . JL-TWL-9113

Anaerobic Digester

Description

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The Anaerobic Digester is comprised of two 1.3 gallon upward flow packed bed reactors, with feed rate and temperature controls to allow steady, continuous operation at up to 1.1 gallons per day.

The reactors may be operated in series or parallel.

A buffer vessel between the reactors permits discharge of excess flow from the first reactor when the second reactor is operated in series, but at a lower flow rate.

The flow rates to the vessels are set and controlled by peristaltic pumps.

The temperature of each reactor is controlled by an electric heating tape wrapped around the external wall.

The temperature distribution within each reactor is maintained to $\pm 1^{\circ}\text{F}$.

Reactor temperatures may be separately set at any desired value in the range ambient to 131°F .

The gas off-take from each reactor is taken to a volumetrically calibrated collector vessel operating by water displacement.

A constant head, liquid seal device ensures that the gas pressure in the reactor is maintained at a constant value throughout the test run.

The collected gas can be exhausted from the vessel and the volume refilled with water during a run, without breaking the liquid seal.

Liquid and gas sampling points are located at all strategic points around the reactors.

The equipment is mounted on a steel base with an integral barrier to cope with spillage and wash down.

The base is finished in instrument tan texture enamel.

Specification:-

Reactors

Two identical reactors-nominal capacity, 1.3 gal.; packed volume, 1.1 gal.; 6.25" ID diameter by 10" high.

Reactor packing

1" diameter bio-balls.

Temperature control

For each reactor-836W heating jacket with PID control from a temperature sensor positioned inside the reactor, set point within range ambient to 131°F.

The jacket is thermostatically protected by a cutout set at 185°F.

pH Meter

Range: 0.00 - 14.00

Feed pumps

Two identical peristaltic pumps-variable speed using a potentiometer to 12 rpm, with flow rates from

0.04 to 1.1 gal. per day.

Gas collection vessels

Two identical-linear scales, 0-1.3 gal. capacity

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