

The invention relates to the equipment for intensification of microalgae cultivation processes by selective extraction and introduction of CO₂ from the cleaned biogas and can be used in the agro-industrial field, as well as at industrial waste water biological treatment stations.

The combined plant for selective extraction of CO₂ from biogas and cultivation of microalgae comprises a block for CO₂ extraction from biogas, a microalgae cultivation reactor (18) and a microalgae removal block. The block for CO₂ extraction from biogas comprises a sealed container (1), made two-section, the lower section of which comprises a biogas post-treatment block, inside which is placed a housing (3) with conical bottom. Inside the housing (3) is installed a mesh container (7) with a load (8) of iron-coke galvanic pair, and in the upper part an electric vibrator (9) with a nozzle (10), connected to a bubbler (11), mounted in the upper section of the block for CO₂ extraction from biogas, which also comprises a biogas drainage block (12), an injector (14), a downspout duct (15), connected to a conduit (16), which is connected to a node (17) for ammophos additives dispensing into the microalgae cultivation reactor (18), in which are placed a heat exchanger (19), LED lamp units (20) and a cylindrical electroflotation block (21), comprising an electrode assembly (22) built-in congruently to its axis, connected to a constant-current source (23), and a funnel (24), connected to a hose (25), which communicates with a reservoir (26) of a drum filter (27) of the microalgae removal block, which further comprises an auxiliary electrode assembly (29), mounted in the reservoir (26) of the drum filter (27), a scraper (30) and a capacity (31), connected to a recirculation pump (32), the outlet of which is connected via a conduit to the injector (14), at the same time the drum filter (27) is connected to a pump (28).

Claims: 2

Fig.: 1

