

The invention relates to the purification of sewage waters from hard-degradable organic compounds and can be applied in agriculture, light and defence industries.

The combined photo-biocatalytic reactor for destructive purification of sewage waters from hard-degradable organic compounds includes a vertical body (1) with a water supply branch pipe (2), connected to a pump (5) and a capacity for reagent (4), the body having a conic bottom with a sediment removal branch pipe (6); in the upper part of the body it is installed a block for photocatalytic treatment, including tubular U-shaped reactors (13); inside each it is installed an ultra-violet lamp (14) with reflectors (15); between the reactors there are placed brushes (12) with the possibility of reciprocating motion thereof, which are connected to a driving actuator, including an electric motor (8), an eccentric (9), guides (10) and a movable panel (11); into the body (1) it is installed a vertical pipe (16) for water circulation to the bottom of the body (1); in the middle of the body (1) it is placed a solid floating support (17), limited by nets (18); under the solid floating support (18) it is installed a horizontal pipe (19) with holes, which communicates with a filter (21); in the lower part of the body (1) it is installed an aeration block, including an oxygen-enriched air delivery pipe (32) and an air delivery pipe (34), which communicates with air-lifts (36), made in the form of vertical columns; said pipes are connected to a fan (25); the oxygen-enriched air delivery pump (32) is connected to an oxygenation block (27), including a capacity with magnets (28) and a vitiated air removal pipeline (29) with a control valve (30); the filter (21) is placed parallel to the body (1) and includes a capacity with conic bottom with a sediment discharge branch pipe (7) and a purified water outlet branch pipe (3) in the upper part thereof; inside the filter it is placed a floating granular charge (22), limited by a net (23) and a horizontal bactericidal lamp (24), placed above the charge (22).

Claims: 4

Fig.: 1

