CLAIMS

[Claim 1]

A biological treatment apparatus for organic waste water in which a fluidized bed of a biological carrier is internally formed, comprising:

a reactor;

a raw water supply device that supplies raw water to a lower part of the reactor;

an oxygen permeable membrane module provided inside the reactor for supplying oxygen to the water in the reactor;

an oxygen-containing gas supply device that supplies an oxygen-containing gas to the oxygen permeable membrane module;

piping for discharging an exhaust gas from the oxygen permeable membrane module to the outside of the reactor; and

a treated water extraction device that extracts treated water from an upper part of the reactor,

the oxygen permeable membrane module comprising a non-porous oxygen permeable membrane, and

the oxygen-containing gas supply device supplying the oxygen-containing gas by a blower with a pressure of 0.1 MPa or less.

[Claim 2]

A biological treatment method of organic waste water, wherein the organic waste water is treated by the biological treatment apparatus for organic waste water of claim 1.

[Claim 3]

The biological treatment method of organic waste water according to claim 2,

wherein the oxygen containing gas supply device comprises a blower, and

a pressure of the blower is higher than a pressure loss of the oxygen permeable membrane and is smaller than a water pressure generated at a water depth of the reactor.