CLAIMS

1. An installation (5) for treating wastewater from a WC (3), the WC (3) including a toilet bowl (7) and a flush system (9), the flush system (9) having a water inlet (17) through which a water is supplied to the flush system (9) from an external water supply, comprising:

- a solid/liquid separation filter (25) intended for being mounted at the outlet of the toilet bowl (7) of the WC (3), and

- a liquid recirculation circuit (27), arranged for conveying a liquid from said solid/liquid separation filter (25) to a main tank (11) of said WC (3),

the solid/liquid separation filter (25) including at least:

- an inlet (35), intended for being connected to the outlet of the bowl (7) of said WC (3),

- a solid/liquid separation module (33), configured for separating solid matter from liquid matter,

- a first outlet (45), intended for being connected to a discharge pipe (30),

- a second outlet (49), connected to said liquid recirculation circuit (27),

said solid/liquid separation filter (25) being configured for conveying solid matter from said solid/liquid separation module (33) to said first outlet (45) and for conveying liquid matter from said solid/liquid separation module (33) to said second outlet (49),

the liquid recirculation circuit (27) comprising a filtration unit (65) configured for making said liquid reusable for the flush system (9) of said WC (3) upon said liquid flowing through said filtration unit (65),

the filtration unit (65) of the liquid recirculation circuit (27) including a prefiltration system (67) and an ultrafiltration system (69), connected in series, and said installation also including a backwash system for the prefiltration system (67), being connected to the water inlet (17) and said discharge pipe (30), the backwash system being configured such that a water supplied from the external water supply through the water inlet (17) passes in counter-flow through the prefiltration system (67) to flow to said discharge pipe (30).

2. The installation (5) according to claim 1, in which the solid/liquid separation filter (25) has a housing (31) inside which the solid/liquid separation module (33) is mounted, and in that the solid/liquid separation module (33) is a rotary screen (39) driven by an electric motor (40).

3. The installation (5) according to claim 2, in which the separation filter (25) includes a cleaning nozzle (51) for the rotary screen (39), and a cleaning pipe (53), connected at one of the ends thereof to said cleaning nozzle (51), and intended for being connected at the other of the ends thereof to a water inlet (17).

4. The installation (5) according to any of claims 1 to 3, in which it includes:

- a storage tank (71) for liquid matter, fed by the second outlet (49) of the solid/liquid separation filter (25), and

- a hydraulic pump (77), arranged for extracting the liquid matter contained in said storage tank (71) for liquid matter.

5. The installation (5) according to claim 4, including a system for draining liquid matter from the storage tank (71), including:

- a prefiltration pipe (75) connecting the storage tank (71) for liquid matter to the prefiltration system (67),

- a drain pipe (83), connected to said prefiltration pipe (75) and intended for being connected to the discharge pipe (30),

- a unit for controlling the direction of flow of the liquid matter, arranged in the installation (5) for conveying the liquid matter from the storage tank (71) for liquid matter to the discharge pipe (30).

6. The installation (5) according to one of claims 1 to 5, including means for temporarily connecting the outlet of the discharge pipe to the separation filter (25).

7. The installation (5) according to any of claims 1 to 6, in which the backwash system of the prefiltration system (67) further comprises:

- a prefiltration pipe (75) to which the prefiltration system (67) is connected,

- a wash pipe, connected to said prefiltration system (67) and intended for being connected to a water inlet (17),

- a drain pipe (83), connected to said prefiltration pipe (75) and intended for being connected to the discharge pipe (30),

- an unit for controlling the direction of water circulation, arranged in the installation (5) for conveying water from a water inlet (17) to the prefiltration system (67), then from the prefiltration system (67) to the discharge pipe (30).

8. The installation (5) according to claim 4 or 5, in which the storage tank (71) for storing liquid matter includes an upper cover (66) having an opening (68) receiving the second outlet (49) of the solid/liquid separation filter (25).

9. The installation (5) according to any of claims 1 to 8, in which the solid/liquid separation filter (25) includes two arms for attaching the prefiltration system (67) and the ultrafiltration system (69).

10. A sanitary unit (1), comprising :

- a WC (3), comprising a bowl (7) and a flush system (9), said flush system (9) comprising a main tank (11), said main tank (11) being connected to a water inlet (17) and to said bowl (7), and

- an installation (5) for treating wastewater from said WC (3), obtained according to any of claims 1 to 9, the liquid recirculation circuit being connected to the main tank (11) of the WC.