

## Title (en)

Device for periodical discharge and tank for a clarification plant using such a device

## Title (de)

Vorrichtung zum periodischen Entleeren und Tank in einer Reinigungsanlage mit einer derartigen Vorrichtung

## Title (fr)

Dispositif à décharge périodique et cuve pour système d'épuration d'eaux usées utilisant un tel dispositif

## Publication

**EP 2287411 A1 20110223 (FR)**

## Application

**EP 10006989 A 20100707**

## Priority

FR 0903355 A 20090708

## Abstract (en)

The periodic discharge device (1) comprises a base (4) for attaching to the bottom of the tank comprising an outlet opening (7) contacting with an evacuation opening, a stopper vertically movable between a lower position in which the stopper is sealed on the outlet opening and an upper position, a displacement float (5) that vertically moves in the tank and is connected with the stopper for moving it upward to a level of preset water in the tank, a device for holding the stopper in the upper position, and a triggering device. The periodic discharge device (1) comprises a base (4) for attaching to the bottom of the tank comprising an outlet opening (7) contacting with an evacuation opening, a stopper vertically movable between a lower position in which the stopper is sealed on the outlet opening and an upper position, a displacement float (5) that vertically moves in the tank and is connected with the stopper for moving it upward to a level of preset water in the tank, a device for holding the stopper in the upper position, and a triggering device, which prevents the moving of the float before a preset water level is reached in the tank. The tank has an opening for evacuation of wastewater formed in one of its walls. The holding device allows the return of the stopper in the lower position at the time of complete evacuation of water from the tank. The holding device comprises cylindrical float balls, which are movable within the device in the vicinity and on one side of the opening of the outlet. The float balls comprise a spud that is connected with a shoulder of the stopper, and an eccentric weight arranged parallel to its generator below the spud. The float balls are vertically sliding and rotating around its longitudinal horizontal axis. The base supports a pedestal that forms a box, which is elevated and contacted with the base. The float balls are arranged along a first axis of the pedestal passing through the center of the outlet opening. The triggering device is a float rotating around a horizontal axis at one of its ends, and comprises a locking finger engaging in a selective manner with the pedestal or a connected part. The float is mounted vertically and sliding along two guiding columns arranged along a second axis of the pedestal, where the second axis is perpendicular to the first axis. The locking finger is connected with a window of a guiding set mounted on the guiding columns. Independent claims are included for: (1) a tank; and (2) a process for evacuating a tank by periodic discharge.

## Abstract (fr)

Dispositif à décharge périodique (1) apte à être agencé à l'intérieur d'une cuve destinée à recevoir et contenir des eaux usées, ladite cuve présentant un orifice d'évacuation des eaux usées ménagé dans l'une des ses parois, ledit dispositif comportant : - une base (4) de fixation au fond de la cuve comportant un orifice de sortie (7) d'axe vertical en communication de fluide avec ledit orifice d'évacuation ; - un bouchon obturateur (2) mobile verticalement entre une position basse dans laquelle il est appliqué de manière étanche sur ledit orifice de sortie (7) et une position haute, écartée de ce dernier ; - un flotteur de déplacement (5) mobile verticalement dans la cuve et coopérant avec ledit bouchon (2) pour l'entraîner vers le haut, à un niveau d'eau préétabli dans la cuve. Selon l'invention, il comporte un dispositif de maintien (6) dudit bouchon en position haute qui est apte à bloquer ledit bouchon (2) en position haute lorsque ledit bouchon est amené en cette position par ledit flotteur de déplacement (5), ledit dispositif de maintien (6) étant ensuite apte à dégager ledit bouchon (2) pour un retour de ce dernier en position basse au moment de l'évacuation complète de l'eau de la cuve (21).

## IPC 8 full level

**E03F 5/10** (2006.01)

## CPC (source: EP)

**E03F 5/107** (2013.01); **E03F 2201/30** (2013.01)

## Citation (applicant)

- FR 2690955 A1 19931112 - INGENIERIE NATURE TECH [FR]
- FR 2792346 A1 20001020 - SERVILOC [FR]
- FR 523281 A 19210816 - PIERRE ALLERT GANDILLON [FR]
- FR 2914660 A1 20081010 - AQUA SAF SARL [FR]

## Citation (search report)

- [I] FR 2792346 A1 20001020 - SERVILOC [FR]
- [A] WO 2004027175 A1 20040401 - PREMIER TECH 2000 LTEE [CA]
- [A] FR 2914660 A1 20081010 - AQUA SAF SARL [FR]
- [A] FR 523281 A 19210816 - PIERRE ALLERT GANDILLON [FR]

## Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

## Designated extension state (EPC)

BA ME RS

## DOCDB simple family (publication)

**FR 2947844 A1 20110114; FR 2947844 B1 20161125; EP 2287411 A1 20110223**

## DOCDB simple family (application)

**FR 0903355 A 20090708; EP 10006989 A 20100707**