

Title (en)
Toilet bowl

Title (de)
Toilettenschüssel

Title (fr)
Cuvette de toilettes

Publication
EP 1493874 A1 20050105 (DE)

Application
EP 04015717 A 20010111

Priority
• DE 10002070 A 20000118
• EP 01100666 A 20010111

Abstract (en)
The system has at least one sanitary device producing waste water, which travels to a collection arrangement (110) under gravity. The collection arrangement has a first suction and ventilation valves and is connected by a negative pressure line to a collection receptacle and joined to a negative pressure source. The waste water can also be transported to the negative pressure line by opening a second suction valve assigned to the sanitary device. The waste water from the sanitary device is collected in a first casing (112) or a first intermediate container. Either the first casing has a base part (116) to generate a standing pressure with a first valve connected to a standing pressure membrane, a second valve connected to a control membrane and a third valve connected to a switching membrane for connecting the membrane to a negative pressure line, or the first casing is divided into two chambers (122,124) by a membrane (118), with the first chamber having an inlet for the waste water and an opening (142) for the suction pipe (134), which is opened or closed by the membrane moving under the forces of springs (150-154). The first intermediate container is connected to a control arrangement, which is connected to a first line through a third check valve connected to a negative pressure line and to a second line through a second ventilation valve connected to atmospheric pressure. The second ventilation valve is connected to a third line through the third check valve, to prevent flow if there is an over pressure. A second suction valve in a second casing is operated by a fourth valve, which is adjusted by a fourth membrane that divides the second casing into a third chamber, which is connected to negative pressure, and a fourth chamber, which is connected to atmospheric pressure. A spring element acts on the fourth membrane towards the fourth chamber, to move the fourth membrane and operate the fourth valve. The waste water is drawn directly into the collection receptacle or a second intermediate container through a second suction valve. A sensor element is arranged in the second intermediate chamber, which controls a fourth suction valve and a connection to the atmosphere, according to the amount of waste water collected in the second intermediate chamber.

Abstract (de)
Die Erfindung bezieht sich auf eine Toilettenschüssel mit im oberen Rand der Toilettenschüssel angeordneter Spüldüse (22, 23) zum Abgeben von Flüssigkeit, wobei die Spüldüse (22, 23) einen scheibenförmigen sich entlang der Toilettenschüsselinnenfläche erstreckenden ersten Abschnitt (44) mit einem Austrittsschlitz (50) bogenförmigen Verlaufs sowie einen in einer Aufnahme der Toilettenschüssel sich erstreckenden zweiten Abschnitt (46) umfasst, über den die Flüssigkeit zu dem Austrittsschlitz strömt. Um mit wenigen Düsen sicherzustellen, dass die Toilettenschüssel umfassend gesäubert werden kann, wird vorgeschlagen, dass der Austrittsschlitz (50) der Spüldüse (22, 23) in seinem jeweiligen Endbereich in eine Bohrung übergeht, deren Durchmesser D größer als der Austrittsschlitz in seiner Breite S ist, dass die Bohrungen einen Winkel α mit $140^\circ \leq \alpha \leq 180^\circ$ einschließen und dass die von dem Austrittsschlitz aufgespannte erste Ebene in Richtung der Innenfläche der Toilettenschüssel geneigt verläuft.
<IMAGE>

IPC 1-7
E03D 11/02

IPC 8 full level
E03D 11/10 (2006.01); **E03D 11/13** (2006.01); **E03F 1/00** (2006.01)

CPC (source: EP)
E03D 11/10 (2013.01); **E03D 11/13** (2013.01); **E03F 1/006** (2013.01)

Citation (applicant)
• DE 29700985 U1 19980520 - SANIVAC VAKUUMTECHNIK GMBH [DE]
• DE 2529169 A1 19760122 - IFOE AB
• EP 0019449 A1 19801126 - IDEAL STANDARD [DE]
• US 5715544 A 19980210 - HUFFMAN CARRIE E [US], et al
• US 4075718 A 19780228 - HARGRAVES WILLIAM J
• DE 8619586 U1 19860911

Citation (search report)
• [Y] US 4404696 A 19830920 - HEINZE WALTER O [US], et al
• [Y] DE 1061559 B 19590716 - DORMAN SPRAYER COMPANY LTD
• [A] US 4075718 A 19780228 - HARGRAVES WILLIAM J

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