

WATER-SAVING REVERSE-VORTEX FLUSH TOILET

TECHNICAL FIELD

[0001] The present disclosure relates to the technical field of sanitary ware, and in particular relates to a water-saving reverse-vortex flush toilet.

BACKGROUND

[0002] There are very many types of toilets with different flushing modes on the market. The common flushing modes are jet flushing, vortex flushing, water distribution hole flushing, and two-side flushing. For the vortex flushing, the water rushes out at a very fast speed and flows quickly along the wall of the washable surface to form a vortex. Some existing vortex type toilets are provided with guiding parts on the washable surface to guide the water flow. The guiding part of the existing toilets is spiral downwards to guide the water flow to be spiral downwards to form a vortex. Thereby, the water flow flows into a transition wall successively. However, with the spiral downwards guiding part structure, most of the existing toilets requires 3.5L or more of water to pass a golf ball full flushing test, and requires 3.25L of water to pass an artificial stool test. The water consumption is large and the water saving performance is not good.

SUMMARY

[0003] The present disclosure aims to overcome the defects of the prior art and provide a water-saving reverse-vortex flush toilet.

[0004] To achieve the above purpose, the present disclosure uses the following technical solution: a water-saving reverse-vortex flush toilet, including a toilet body, the toilet body including a flushing channel and a bowl part, the bowl part including a sewage receiving surface, a water seal part and a transition wall, and the transition wall being connected to the sewage

receiving surface and the water seal part, where the left or right side of the sewage receiving surface is provided with a guiding part, the front part of the sewage receiving surface extends backwards and upwards along the outline of the sewage receiving surface to form the guiding part, the flushing channel is provided with, near the rear part of the sewage receiving surface, a main flushing outlet, and the main flushing outlet is located on the side without the guiding part.

[0005] Further, the guiding part of the sewage receiving surface is higher than the side of the sewage receiving surface without the guiding part.

[0006] Further, the rear part of the guiding part is higher than the front part of the guiding part.

[0007] Further, the transition between the guiding part and the sewage receiving surface is smooth.

[0008] Further, the guiding part is tilted towards the transition wall in its entirety.

[0009] Further, the flushing channel is also provided with a secondary flushing outlet, and the secondary flushing outlet is located on the side near the guiding part.

[0010] Further, the output water flow from the main flushing outlet flows towards the front part of the sewage receiving surface, and the output water flow from the secondary flushing outlet flows towards the rear part of the sewage receiving surface.

[0011] The beneficial effects of the present disclosure are as follows: the water flow rushing out of the main flushing outlet flushes the sewage receiving surface on one side of the main flushing outlet, then passes through the front part of the sewage receiving surface and enters the guiding part, and flows upwards along the guiding part to flush the guiding part. When the water level in a water tank is high, the flushing power of the water flow is stronger. The flushing water can cross the guiding part to flow towards the rear part of the sewage receiving surface. When the water level in the water tank is low, the flushing power of the water flow flowing out of the main flushing outlet is weak. In this case, the water flow cannot cross the guiding part. Some of the water flow on the guiding part will return and converge with the subsequent water flow at the

junction of the front part of the sewage receiving surface and the guiding part, and hinder the subsequent water flow from flowing into the guiding part. Since the sewage receiving surface is tilted towards the transition wall in its entirety, at this time, the water flow at the junction, the guiding part and the rear part of the sewage receiving surface flows into the transition wall at the same time. Thus, a large amount of water flows into the transition wall at the same time and generates a greater flushing power. Compared with an ordinary vortex flushing mode in which the water flow flows into the transition wall successively, the present disclosure has a large instantaneous flushing power, can flush the sewage out better, can obtain a better flushing effect with less water, and can pass a golf ball full flushing test and an artificial stool test with only 2.2L water, realizing a better water saving effect. In addition, most of the water flow rushing out of the main flushing outlet flows into the transition wall from the guiding part and in the process of entering the guiding part. By providing the secondary flushing outlet facing towards the rear part of the sewage receiving surface, the sewage receiving surface can be completely flushed to avoid blind spots.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is an overall schematic diagram of the present disclosure.

[0013] FIG. 2 is a forward sectional view of the present disclosure.

[0014] FIG. 3 is a side sectional view of the present disclosure.

[0015] FIG. 4 is a schematic diagram of a main flushing outlet and a secondary flushing outlet.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0016] The present disclosure will be further described below in conjunction with the drawings.

[0017] Embodiment: provided is a water-saving reverse-vortex flush toilet, including a toilet body. The toilet body includes a flushing channel and a bowl part. The bowl part includes a

sewage receiving surface 1, a water seal part 3 and a transition wall 2. The transition wall 2 is connected to the sewage receiving surface 1 and the water seal part 3. The right side of the sewage receiving surface 1 is provided with a guiding part 11. The front part of the sewage receiving surface 1 extends backwards and upwards along the outline of the sewage receiving surface 1 to form the guiding part 11. The flushing channel is provided with, near the rear part of the sewage receiving surface 1, a main flushing outlet 41. The main flushing outlet 41 is located on the left back of the flushing channel. When the water level in a water tank is high, the water flow rushing out of the main flushing outlet 41 has a large flushing power, which can flush the sewage receiving surface on the left and flows towards the rear part of the sewage receiving surface 1 along the guiding part 11 while passing through the guiding part 11. When the water level in the water tank is low, the water flow flushing into the guiding part cannot overflow the guiding part to enter the rear part of the sewage receiving surface, and some of the water flow is weak in flushing power and will flow back from the guiding part to converge with the subsequent water flow at the junction of the front part of the sewage receiving surface and the guiding part. In this case, the water flow at the rear part of the sewage receiving surface, the junction, and the guiding part flushes into the transition wall 2 at the same time. Thus, the water flow has a high flushing power, and the flushing effect is better.

[0018] Further, the guiding part 11 of the sewage receiving surface 1 is higher than the side of the sewage receiving surface without the guiding part. That is, the left side of the sewage receiving surface 1 is lower than the side with the guiding part 11. The rear part of the guiding part 11 is higher than the front part of the guiding part 11. The water flow rushing out of the main flushing outlet 41 at the left side will flow upwards along the guiding part 11 after passing through the front part of the sewage receiving surface and entering the guiding part.

[0019] Further, the transition between the guiding part 11 and the sewage receiving surface 1 is smooth, and there is no splash when the water flow passes through the front part of the sewage

receiving surface 1 and enters the guiding part 11.

[0020] Further, the guiding part 1 is tilted towards the transition wall in its entirety. The water flow on the sewage receiving surface and the guiding part has a trend of flowing into the transition wall 2.

[0021] Further, the flushing channel is also provided with a secondary flushing outlet 42. The secondary flushing outlet 42 is located on the side near the guiding part 11. Since most of the water flow rushing out of the main flushing outlet 41 flows into the transition wall 2 from the guiding part 11 and in the process of flushing the sewage receiving surface at the left side, it is difficult to flush the rear part of the sewage receiving surface with only the main flushing outlet 41. By providing the secondary flushing outlet 42, the sewage receiving surface 1 can be completely flushed to avoid blind spots, and the flushing effect is better.

[0022] Further, the output water flow from the main flushing outlet 41 flows towards the front part of the sewage receiving surface 1, and the output water flow from the secondary flushing outlet 42 flows towards the rear part of the sewage receiving surface 1.

[0023] The use principle of the present disclosure is as follows: when the water level in a water tank is high, the water flow rushing out of the main flushing outlet 41 has a large flushing power to flush the left side of the sewage receiving surface and passes through the front part of the sewage receiving surface 1 to flush the guiding part 11 and enter the rear part of the sewage receiving surface. When the water level in the water tank is low, the water flow has a weak flushing power, cannot cross the guiding part to flow to the rear part of the sewage receiving surface, and can only flows into the transition wall from the guiding part or return to converge with the subsequent water flow at the junction of the guiding part and the front part of the sewage receiving surface. In this case, the water flow at the rear part of the sewage receiving surface, the junction, and the guiding part flows into the transition wall at the same time. The water flow flowing into the transition wall at the same time is large in volume and strong in

flushing power. With the above structure, the water-saving reverse-vortex flush toilet can pass a golf ball full flushing test with only 2.2L water, and can realize a better flushing effect with less flushing volume, and the water saving effect is better. Only a small part of the water flow rushing out of the main flushing outlet 41 flows through the guiding part 11 and enters the rear part of the sewage receiving surface 1, which causes the rear part of the sewage receiving surface 1 cannot be completely flushed by the water rushing out of the main flushing outlet 41. By providing the secondary flushing outlet 42, the rear part of the sewage receiving surface 1 can be flushed directly, such that there will be no blind spots, and the flushing effect is better.

[0024] The descriptions above are preferred implementation of the present disclosure. It be pointed out that for a person of ordinary skill in the art, without departing from the principle of the present disclosure, several improvements and modifications can be made, and these improvements and modifications also fall within the protection scope of the present disclosure.

Claims

1. A water-saving reverse-vortex flush toilet, comprising a toilet body, the toilet body comprising a flushing channel and a bowl part, the bowl part comprising a sewage receiving surface (1), a water seal part (3) and a transition wall (2), and the transition wall (2) being connected to the sewage receiving surface (1) and the water seal part (3), wherein the left or right side of the sewage receiving surface (1) is provided with a guiding part (11), the front part of the sewage receiving surface (1) extends backwards and upwards along the outline of the sewage receiving surface (1) to form the guiding part (11), the flushing channel is provided with, near the rear part of the sewage receiving surface (1), a main flushing outlet (41), and the main flushing outlet (1) is located on the side without the guiding part (11).

2. The water-saving reverse-vortex flush toilet according to claim 1, wherein the guiding part (11) of the sewage receiving surface (1) is higher than the side of the sewage receiving surface (1) without the guiding part.

3. The water-saving reverse-vortex flush toilet according to claim 2, wherein the rear part of the guiding part (11) is higher than the front part of the guiding part (11).

4. The water-saving reverse-vortex flush toilet according to claim 3, wherein the transition between the guiding part (11) and the sewage receiving surface (1) is smooth.

5. The water-saving reverse-vortex flush toilet according to any one of claims 1 to 4, wherein the flushing channel is also provided with a secondary flushing outlet (42), and the secondary flushing outlet (42) is located on the side near the guiding part (11).

6. The water-saving reverse-vortex flush toilet according to claim 5, wherein the output water flow from the main flushing outlet (41) flows towards the front part of the sewage receiving surface (1), and the output water flow from the secondary flushing outlet (42) flows towards the rear part of the sewage receiving surface (1).