

The

WASHLET

Bidet of the Future

FOR THE ULTIMATE FEELING OF CLEAN



The evolution of clean.



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Overview

A Washlet is an electronic personal hygienic device, also known as the generic electronic bidet, that is set directly on a toilet bowl (in place of the standard toilet seat). For anal and genital cleansing, it emits a gentle stream of clean warm water. It consists of four main parts: (1) cover, (2) control panel, (3) heated seat, and (4) retractable wand.

The switches on the control panel activates the various functions of the washlet. They include three different types of cleaning action: rear, soft rear, and front; the dryer, and depending on the model, could include controls for setting the temperature and the force of the water, the temperature of the seat, the position of the nozzle, the strength of the dryer, and a self-cleaning function.

The term Washlet is under trademark, held by the leader of electronic bidets TOTO, a Japanese company that started selling them in 1980 and sold over 30 million by 2011.

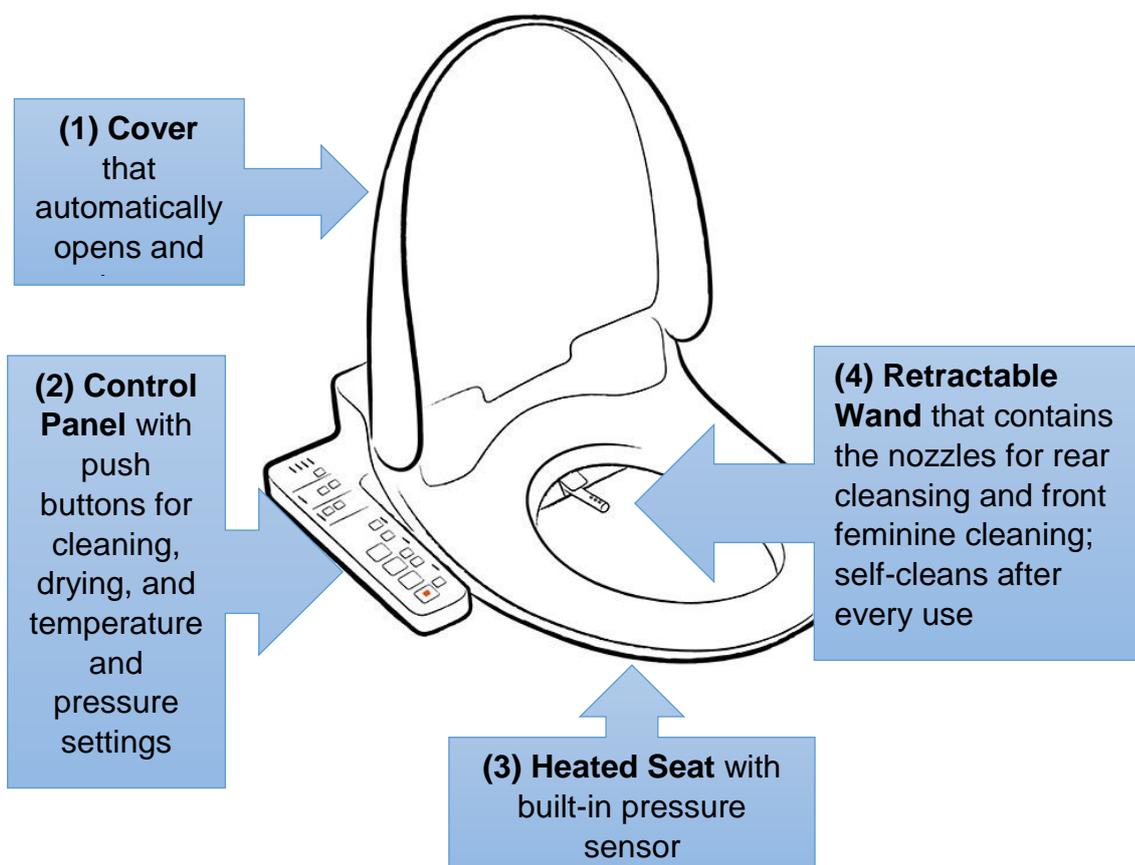


Figure 1 Washlet (Source: <https://sokkuan.com/Toto-Washlet>)

Main Parts

Seating Unit: The main unit of the washlet which houses the nozzle and dryer underneath, and built-in sensors for weight and odor. Uses 120V, 60 Hz power input and comes with a 1.2 m power cord. Depending on the unit, it weighs about 5 kg with dimensions of W390 mm, D529 mm, H99 mm.



Figure 2 Seating unit with cover

Source: <https://www.homedepot.com/p/TOTO-C100-Electric-Bidet-Seat-for-Round-Toilet-in-Cotton-White-sw2033-01/206794799>

Cover: Automatically opens and closes with the help of a built-in motion detector.

Wand: Made of an antibacterial silicone-based material that has three nozzles, one for each of the cleansing choices: rear, soft, and front.



Figure 3 Nozzle Source: <https://www.totousa.com/people-first-innovation/peopleplanetwater/cleaner-future/washlet-how-it-works>

(1) **Rear:** The water jet features pleasant, yet strong water pressure to target this specific area

(2) **Soft:** Nozzle has a larger radius to cover more space. Low water pressure makes for a soft, comfortable spray

(3) **Front:** The front wash consists of large, soft drops of water for comfortable intimate cleansing – for a clean, fresh feeling¹

For antibacterial and antifouling, the nozzle is designed so that the water does not splash back on the inside of the toilet (43° for anuses, 53° for vulvas). When the switch is pressed and the pressure sensor recognizes a user is sitting down on the heated seat, the nozzle extends out from its door under the seat and sprays a gentle stream of oscillating warm water to the targeted area. Once the washing is complete, the nozzle self-cleans and retracts underneath the seat.

Dryer: Located underneath the seat to the right of the wand door, can be turned on to blow warm air. The wind setting can be adjusted from low to high, or from 35 to 60 degrees celsius.

¹ Source: http://www.innotrading.fi/wpcontent/uploads/2015/04/toto_washlet_2015_en_web.pdf

Odor Sensor: When it detects a strong-enough odor, an oxygen deodorizer will automatically activate.

The control button can only be activated if the **weight sensor**, built into the seat, detects whether or not the user is seated to prevent accidental discharge from the nozzle. After recognizing the user is finished, the sensor signals the cover to close.

Control Panel. Depending on the model, the control panel is either attached to the right-hand side of the seating unit or hung on the wall at eye level or lower for ease of use and comfort. It controls the (1) type of washing (rear, soft rear, front), (2) dryer, and various settings, including the (3) temperature and pressure (low, middle, high) of the water, and the (3) horizontal position of the nozzle to fit everyone's unique body shape and size.

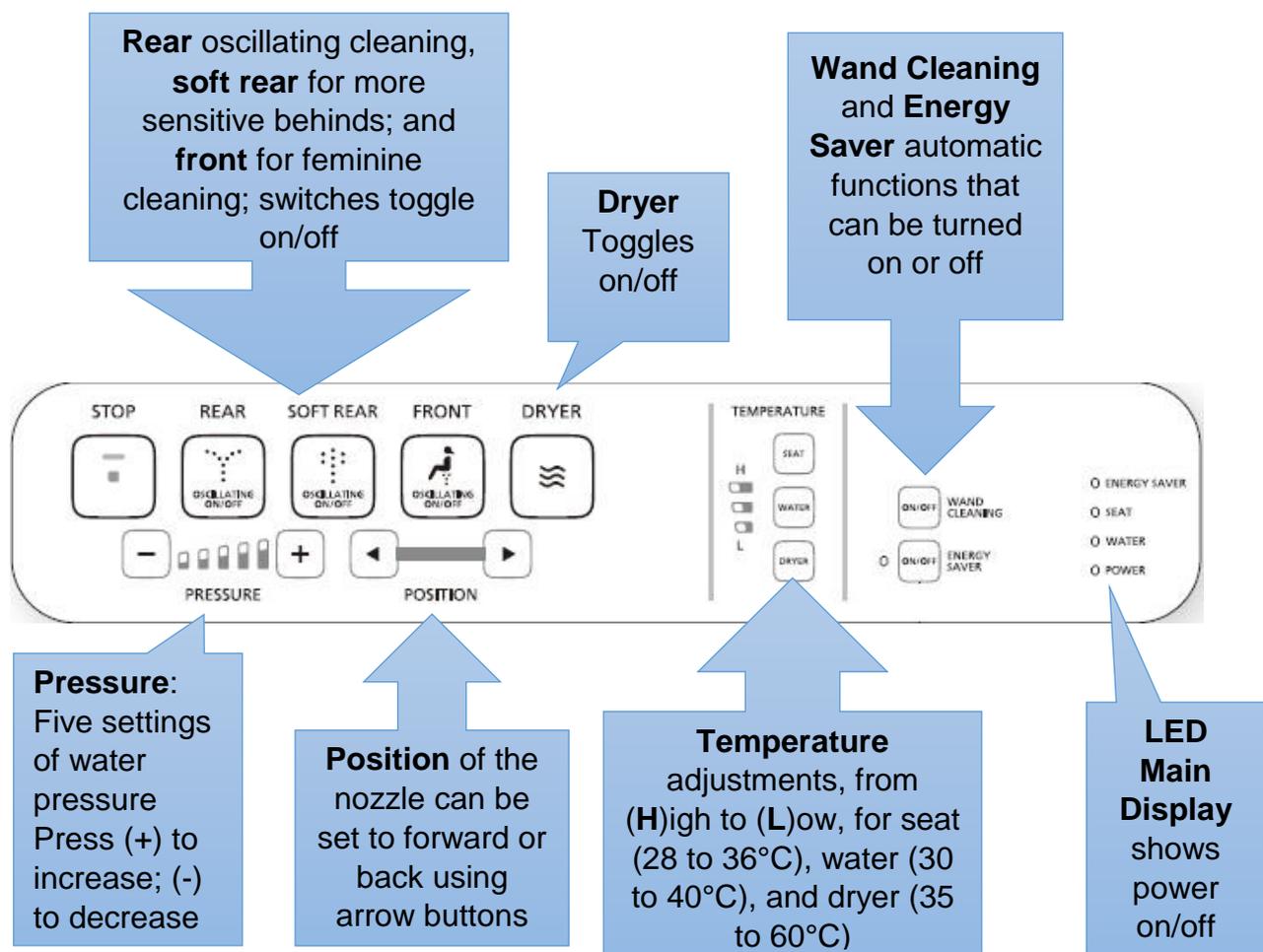


Figure 4 Control Panel (Source: <https://www.jbidet.com/toto/toto-washlet-c100-review/>)