

# Building and Plumbing Newsflash 632

## Cross connection and backflow control – Toilet douche seats

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### Purpose

To provide advice regarding the compliance requirements under the Plumbing Code of Australia (PCA) 2022 when installing toilet douche seats. The newsflash applies specifically to toilet douche seats that are self-contained for installation on water closet (WC) pans (toilets) and which have a direct connection to the water supply. Guidance is provided on the backflow requirements when installing toilet douche seats.

In addition, this newsflash provides:

- general information on the appropriate backflow prevention requirements when installing flexible spray type hoses in close proximity to toilet pans.
- guidance where flexible handheld shower heads are used as part of an accessible bathroom.

### Summary

This newsflash is intended to assist:

- plumbers to understand the cross connection and backflow control requirements when installing toilet douche seats, handheld spray bidet hoses and flexible handheld shower heads.
- plumbing inspectors when inspecting the installation of a toilet douche seat, handheld spray bidet hoses and flexible handheld shower heads.
- occupational Therapists when prescribing toilet douche seats for clients as a toileting aid.
- property owners when purchasing toilet douche seats to ensure the item is appropriately certified under the WaterMark Scheme.

### Background

A toilet douche seat is a sanitary appliance which uses water dispensed by a douche spray for the purposes of personal hygiene. It is intended for use in conjunction with commercially available WC pans situated in any domestic, commercial, industrial or health care applications.

The popularity for installing toilet douche seats has significantly increased over recent years resulting in a need for additional guidance surrounding the requirements for backflow prevention to limit the potential for the drinking water from being contaminated.

In Queensland, all plumbing and drainage work is regulated under the *Plumbing and Drainage Act 2018* (PDA). It is a requirement of the PDA that all plumbing and drainage work is to comply with the code requirements, which includes the PCA.

Under the PDA all products installed as part of a plumbing system must be suitably certified under the WaterMark Certification Scheme.

### Requirements for toilet douche seats

#### Water connection

The PCA, Part B1P1, Application 1 requires that a drinking water supply is required to be connected to all fixtures intended for personal hygiene. This requirement extends to capture that in all instances a toilet douche seat shall be supplied from a drinking water supply only.

## Backflow requirements

The PCA under Specification 41, S41C4 (3) (f) prescribes that for a toilet douche seat where the outlet in any position is not 25 millimetres above the overflow level of the WC pan, that a high hazard of backflow protection is required for the purposes of individual protection.

The high hazard backflow prevention device can be an integral part of the toilet douche seat or installed separately on the water supply inlet.

### Integral backflow protection

In some instances, suitable high hazard protection will be installed integral of the toilet douche seat. The integral high hazard protection is usually in the form of an Air-Gap (AG) complying with AS 2845.2, or an Atmospheric Vacuum Breaker (AVB) complying with AS/NZS 2845.1. Toilet douche seats that include as an integral device either an AG or AVB do not require any further backflow protection measure for installation.

### External backflow protection

A high hazard backflow protection device such as a reduced pressure device (RPZD) must be installed on the water supply inlet of toilet douche seats where the toilet douche seat does not include either an integral AG or AVB. The high hazard device must be installed to individually protect against the hazard at each toilet douche seat. If multiple toilet douche seats are installed in proximity to each other a single high hazard backflow protection device could be installed as a zone protection device.

Where the outlet of a toilet douche seat is in all positions at least 25 millimetres above the overflow level of the WC pan, the cross-connection hazard rating is reduced under the PCA Specification 41, S41C4 (1) (g) to a low hazard rating. In this situation a suitable low hazard device such as a dual check valve can be installed.

### Backflow registration and reporting

Under section 101 of the *Plumbing and Drainage Regulation 2019* (the Regulation), each local government must establish a program for registering each testable backflow prevention device installed at premises in its local government area and monitoring the maintenance and testing of each device.

Where the toilet douche seat includes suitable high hazard protection in the form of an integral AG or AVB there is no requirement for the backflow protection device to be either registered with the local government or annually inspected and tested as otherwise prescribed through sections 102 and 103 of the Regulation. This position reflects AS/NZS 3500.1 Table 4.4.1 (b) that classifies integral AG and AVB as non-testable devices that do not need to be registered.

All external backflow devices installed in association with a toilet douche seat are required to be registered and maintained in compliance with the Regulation

## WaterMark requirements

All toilet douche seats must be WaterMark certified and listed on the [WaterMark Product Database](#) to the WaterMark Technical Specification-051 (WMTS-051:2021). For toilet douche seats which incorporate an integral AG or AVB, identification of this feature must be recorded on the WaterMark Product Description.

Further details are provided below to assist in determining whether a toilet douche seat contains an integral high hazard backflow device.

## How to search the WaterMark data base for products with integral high hazard devices<sup>1</sup>

The screenshot below shows the pathway to the list of bidet douche seats certified to Specification WMTS-051:2021. The search can be refined by adding details if known in the other fields, such as the WaterMark licence number, brand name or product ID. When all details are entered click the search tab.

When the desired product is found, click on the blue 'view product detail' tab (circled). This tab lists the product details including specifications of any integral backflow provisions under the heading 'Description' or 'Scope of Use'. This product list can be viewed as either a list view or grid view. The screenshot below shows the grid view.

<p> <b>Active Product</b> Authorised Product, Safe to install</p> <p>Licence: 011111    EXP. 29/10/2028</p> <p>Model ID:            XXXX Model Name:        XXXX Brand:                XXXX</p> <p> <a href="#">View product detail</a></p>	<p> <b>Active Product</b> Authorised Product, Safe to install</p> <p>Licence: 022222    EXP. 29/10/2028</p> <p>Model ID:            XXXX Model Name:        XXXX Brand:                XXXX</p> <p> <a href="#">View product detail</a></p>	<p> <b>Active Product</b> Authorised Product, Safe to install</p> <p>Licence: 033333    EXP. 29/10/2028</p> <p>Model ID:            XXXX Model Name:        XXXX Brand:                XXXX</p> <p> <a href="#">View product detail</a></p>
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In order to have sufficient evidence of acceptable, integral high level backflow protection, toilet douche seats must include as part of the product details, a statement that the sanitary appliance includes either an:

- Air-Gap (AG) complying with AS 2845.2, or
- Atmospheric Vacuum Breaker (AVB) complying with AS/NZS 2845.1,

<sup>1</sup> The screenshots 1 and 2 of the WaterMark database were sourced with permission from <https://watermark.abcb.gov.au>.

Toilet douche seats where the outlet in any position is not 25 millimetres above the overflow level of the WC pan and do not include details of the relevant backflow protection as being compliant as either an integral AG or AVB must have a high hazard backflow protection device such as an RPZD installed on the water supply inlet.

Refer to the below example search result<sup>2</sup>

<b>Certificate</b>	XXXX
<b>Model ID</b>	1234
<b>Model Name</b>	XYZYX
<b>Brand Name</b>	ABCXYZ
<b>DtS Installation</b>	Yes
<b>Lead free is not applicable</b>	
<b>Description</b>	Air Gap, Wash Only, Solid Bariatric Detachable Seat. Remote Control. Compliant with AS 2845.2 Air Gap
<b>Scope of Use</b>	DN15 solenoid Integral break tank with an Air gap Complying with AS2845.2

## Requirements for handheld spray bidet hoses

The PCA under Specification 41, S41C4 (3) (h) specifies that handheld spray bidet hoses and trigger sprays are considered a high hazard for the purposes of individual protection.

With the increase in handheld bidet spray hoses (trigger spray) being fitted adjacent to toilet pans, there is some confusion regarding the type of backflow device that needs to be fitted. Where the trigger spray has sufficient length to reach or remain lodged in the toilet pan, this constitutes a potential high hazard cross connection.

The danger of cross contamination from this installation shall be removed through the installation of a backflow protection device appropriate for high hazards such as an RPZD.

## Requirements for flexible handheld shower heads installed as part of an accessible bathroom

The PCA under Specification 41, S41C4 (1) (f) specifies that fixtures used for sanitary ablutions including baths, basins and showers are considered a low hazard for the purposes of individual protection.

No further backflow prevent protection is required where an unenclosed shower installed as part of an accessible bathroom, including those bathrooms designed to comply with AS 1428.1:2021, includes a handheld shower head which could potentially reach into the WC pan and a proprietary hose restrictor device which prevents the shower head from reaching into the WC.

## Contact us

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<sup>2</sup> This image has been sourced from the WaterMark data base at <https://watermark.abcb.gov.au> however relevant information has been redacted to remove any real product/model/brand data and replace with hypothetical identifications so as to not to be seen to be endorsing a particular product.

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