

# Connecting water services to dental chairs

Plumbing Advisory Note – issued February 2017

Plumbers need to be aware of the requirements when installing pipework and backflow prevention devices associated with dental chairs.

## Expert advice

Plumbing installations associated with medical facilities, such as a dental surgery, are complex. A suitably recognised expert, e.g. a hydraulic consultant, should undertake installation designs.

## Installation requirements

AS/NZS 3500.1:2015, Appendix G, table G1, defines the hazard rating for dental consoles as 'low'. It specifies that plumbers must install a dual-check valve with atmospheric port (DCAP) non-testable backflow prevention device (see figure 1).

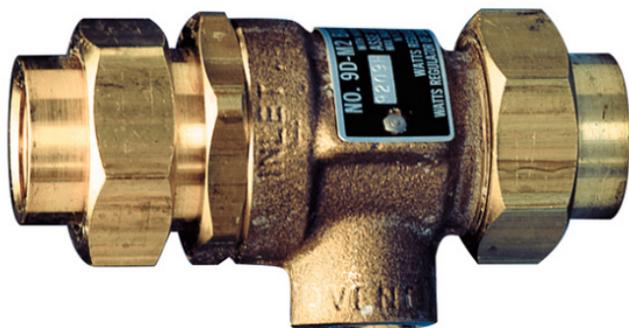


Figure 1: Example of a dual-check valve with atmospheric port (DCAP)

## Legislative requirements

The *National Construction Code Series Volume 3 – Plumbing Code of Australia (PCA)*, Part B specifies the performance requirements for installing water services.

The performance requirements of the PCA are satisfied by complying with **AS/NZS 3500.1:2015 – Sanitary plumbing and drainage**.

AS/NZS 3500.1:2015, Part 1 Water Services, Clause 4.2.2 states 'no device or system that may cause contamination of a water supply shall be connected directly or indirectly to any part of a water service without appropriate cross-connection or backflow prevention control suitable for the degree of hazard'.

A DCAP low hazard device is the minimum level of protection that can be installed to protect the drinking water related to the dental chair.

The atmospheric port must be positioned so that any leakage does not cause a hazard or nuisance, e.g. by discharging on to a pathway.

In some situations, installing a DCAP and a tundish for the potential discharge may not be practicable. In this case, an acceptable alternative solution is to install a 'medium hazard' double check valve (DCV) testable backflow prevention device (see figure 2 over page), which has no discharging port and does not need a tundish installed.

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Figure 2: Example of a double check valve (DCV) testable backflow prevention device

## Zone protection

The drinking water supply connection to a multiple chair plumbing installation must be zone protected by installing an appropriate backflow prevention device on the water service supplying the multiple chairs.

## Individual protection

### Single chairs

Single dental chairs must be plumbed with individual backflow prevention valves to ensure there is no cross-contamination between the dental chair and the drinking water service.

### Multiple chairs

Multiple dental chairs plumbed from a common water service must be plumbed with individual backflow prevention valves to ensure there is no cross-contamination between the individual dental chairs and the drinking water service.

Figure 3 shows reduced pressure zone (RPZ) 'high hazard' testable valves installed for a multiple chair design, as specified by a hydraulic consultant. The installation provides individual chair protection with multiple discharges to a large tundish in a services room.

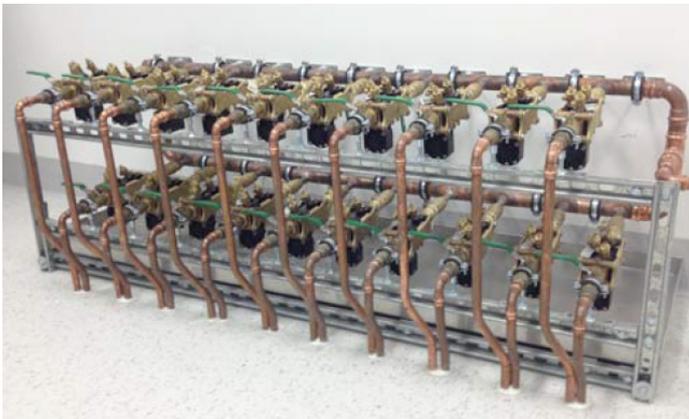


Figure 3: Example of RPZ testable valves installed as individual protection

Contact the Office of the Technical Regulator for more information

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