

Technical Solution Sheet 5.04

5: Cold Water Plumbing

Hose Connection Vacuum Breakers

AIM

The aim of this technical solution is to clarify the requirements for fitting hose connection vacuum breakers.

PLUMBING REGULATIONS 2008

The *Plumbing Code of Australia* (PCA) is adopted by and forms part of the *Plumbing Regulations 2008*. Part B1 of the PCA specifies the objectives and performance requirements related to the installation of cold water services. [AS/NZS 3500.1: Plumbing and drainage Part 1: Water services](#), is a “deemed to satisfy” document listed in Part B1 of the PCA and contains a section on “Cross connection control and backflow prevention”.

BACKGROUND

Hose Connection Vacuum Breakers (HCVB's) are backflow prevention devices generally attached to tap outlets to protect against back siphonage of non-drinking water back into the drinking water supply when a hose is being used. HCVB's will not protect against back-pressure and are only suitable for use in “low hazard” applications. (Reference: Table 4.1 of [AS/NZS 3500.1](#))

USE OF HOSE TAPS

Hose taps are required for different purposes in different types of premises. The hazard risk of backflow from hose taps in residential premises is “low” whereas in commercial or industrial premises the hazard risk could be “medium or high”.

Garden hose taps for general use at residential premises are of least risk. The risk increases if the garden tap is used to fill a swimming pool or ornamental pond, or is connected to an irrigation service having low level outlets.

Hose taps in commercial / industrial premises, generally due to their location, will have varied and different purposes to those in residential premises. Taps with flexible connections and submerged outlets are commonly provided to industrial type fixtures such as rinse tanks and laboratory sinks. These situations are a higher hazard risk should backflow occur.

THE REQUIREMENT TO FIT

The fitting of HCVB's at residential premises is not mandatory, unless the residential premises has a non-drinking water service. In that case, all external taps on the drinking water service must be fitted with hose connection vacuum breakers. If a garden hose tap at residential premises is used to fill a swimming pool or ornamental pond, or is connected to an irrigation service having low level outlets, then a HCVB should be fitted.

In other than residential premises, hose taps with HCVB's and flexible connections can only provide low hazard protection, unless the upstream piping to which the hose taps are connected has a backflow prevention device fitted for zone medium / high hazard protection.

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Hose taps connected upstream of a backflow prevention device fitted for zone protection, but located within 18m of the zone protected area, must also have a backflow device of the same hazard rating as the device fitted for zone protection.

A HCVB would not be required in this instance.

FIGURE 1 - EXAMPLE OF HOSE VACUUM



Note: HCVBs are only designed to withstand a small amount of backpressure, and should not normally remain continuously pressurized for more than 12 hours. If a HCVB is not suitable to the application, an alternative backflow device should be used (see Figures 1 and 2).

FIGURE 2 - EXAMPLE OF HOSE VACUUM BREAKER FITTED TO STANDPIPE

