

## BACKFLOW PREVENTION TYPE AUK 1 AIR GAP REQUIREMENTS FOR WCs

The purpose of this document is to provide clarification of the requirements of the Water Supply (Water Fittings) Regulations (Byelaws in Scotland) as they apply to Type AUK1 air gap arrangements in WC suites.

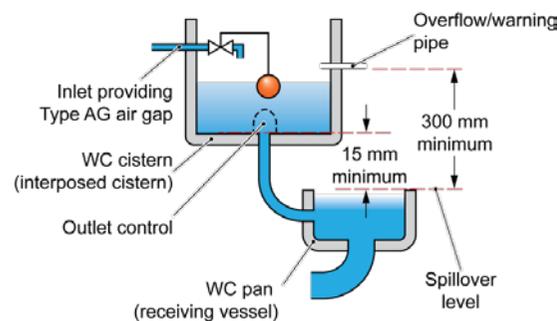
To be considered as a Type AUK1 air gap an arrangement must meet the definition of a Type AUK 1 air gap and satisfy an appropriate performance specification.

As there is no British Standard for a Type AUK1 air gap the only performance specification for Type AUK1 air gaps is the Regulators' Specification test code sheet 2213.14.

An interposed cistern can be used to supply, by gravity, water to receiving vessel of a higher category of risk (i.e. WC flushing cistern - category 3 can supply by gravity a WC pan - category 5).

### Definition: Type AUK1 air gap:

- An air gap with interposed cistern (comprising of a cistern supplied via a Type AG air gap i.e. a non-mechanical backflow prevention arrangement of water fittings and overflow providing an acceptable air gap); the spill-over level of the receiving vessel (WC pan) supplied via the interposed cistern being located not less than 300 millimetres below the overflow pipe and not less than 15 millimetres below the lowest level of the interposed cistern.
- The Type AG air gap being a non-mechanical arrangement providing a visible, unobstructed and complete physical air break between the lowest level of water discharge and the critical water level<sup>1</sup> within a cistern of not less than 20mm or twice the inlet internal diameter 'D'<sup>2</sup> of the inlet pipe whichever is the greater.
- The overflow must be circular and of a minimum size, 19mm, providing this is capable of accommodating maximum inlet flow.



<sup>1</sup> Critical water level: the level (h) above the spill over level two seconds after the maximum water flow has ceased. (The height between the spillover level and the critical level is dimension 'h').

<sup>2</sup> 'D' is the maximum internal diameter found within the last metre of the supply pipe or the DN ('diametre nominel') of the inlet connection.

**Dimensional and design requirements Type AUK1 air gap**

Below is a summary of the dimensional and design requirements for Type AUK1 air gaps. Please refer to the Regulators' Specification for backflow and Regulators Specification for fittings - test code sheets for further details.

1. Does the inlet valve satisfy the Type AG requirements? (Please refer to Type AG air gap requirements checklist for further details.)
2. Is there at least 15mm between spillover level of the WC pan (receiving vessel category 5) and the lowest internal level of the WC cistern (interposed cistern category 3)?



Fig 1: external overflow arrangement



Fig 2: internal overflow arrangement



3. Is the measurement between the spillover level of the WC (receiving vessel) and the invert<sup>3</sup> of the warning pipe at least 300mm?

<sup>3</sup> Invert: external - the lowest horizontal internal surface of the overflow pipe  
 Invert: internal - the lowest point at which water discharges into the overflow