

Installation Requirements and Notes (IRN's)

IRN R000

No Installation Requirements or Notes.

IRN R001

See text of entry for Installation Requirements or Notes.

IRN R005

This tap or combination tap assembly has a Type AUK2 air gap and is therefore only suitable for installation in domestic premises or in other premises to protect against a backflow risk up to a Fluid Category 3, unless additional backflow protection for the higher risk is included in the installation.

IRN R006

This tap or combination tap assembly has a Type AUK3 air gap and is therefore for installation in domestic premises or in other premises to protect against backflow risk up to a Fluid Category 5.

IRN R010

Water supplies shall be at reasonably balanced pressures from a common source (e.g. hot and cold supplies both from the same storage or both from a supply pipe). Where the fitting is supplied from unbalanced supplies (e.g. hot and cold supplies from separate sources) a 'Listed' single check valve or some other no less effective backflow prevention device shall be fitted immediately upstream of both hot and cold water inlets.

IRN R020

Multiple inlet fittings installed in domestic premises and supplied from unbalanced pressures (e.g. hot and cold supplies from separate sources) shall be installed in accordance with IRN R010 and with a double check valve or some other no less effective backflow prevention device fitted at the connection to the shower hose pipe. A single check valve or vacuum breaker may be fitted in place of the double check valve if single check valves are fitted at each inlet to the fitting. Alternatively the fitting shall be supplied in accordance with IRN R040 unless the shower head is constrained above the spill-over level of the bath, wash basin or shower tray.

IRN R030

Multiple inlet fittings installed in domestic premises or in other premises to protect against a backflow risk up to a Fluid Category 3, incorporating a self cancelling diverter acceptable as a backflow prevention device (HC) and having an AUK2 or AUK3 air gap, shall be installed in accordance with IRN R010.

Multiple inlet fittings installed in premises other than domestic to protect against a backflow risk up to a Fluid Category 5, incorporating a self cancelling diverter acceptable as a backflow prevention device (HC only) and having an AUK3 air gap, shall be installed in accordance with IRN R010 and the shower hose shall be constrained as indicated in IRN R040.

IRN R040

The fitting shall be installed so that its outlet discharges above the spill-over level of any fixed appliance as indicated below:-

For backflow protection in domestic premises or installations up to Fluid Category 3.

Size of tap or combination fitting. spill-over level.	Vertical distance of outlet above
1. not exceeding ½in	20mm
2. exceeding ½in but not exceeding ¾in	25mm
3. exceeding ¾in	70mm

If the fitting cannot be installed as indicated in the table it shall be installed:-

- a) with a 'Listed' double check valve assembly or some other no less effective backflow prevention device immediately upstream of the inlet; or
- b) so that it draws water by gravity only from a cistern, cylinder or tank having a permanently open vent pipe, the vertical distance between the point at which the pipe or pipes supply water to the fittings is or are connected to the supply and the spill-over level of any fixed appliances is not less than 25mm, and the pipe or pipes supply(ies) no other fittings (other than a draining tap) at a lower level.

For backflow protection in premises or installation's up to Fluid Category 5.

The vertical distance of the outlet above the spill-over level shall be not less than 20 mm or twice the diameter of the inlet pipe to the fitting, whichever is the greater. If the fitting cannot be installed as indicated it shall be installed:-

- a) with a backflow prevention arrangement suitable for the Fluid Category or
- b) so that it draws water by gravity only from a cistern, cylinder or tank having a permanently open vent pipe, the vertical distance between the point at which the pipe or pipes supply water to the fittings is or are connected to the supply and the spill-over level of any fixed appliances is not less than the dimensions stated above, and the pipe or pipes supply(ies) no other fittings (other than a draining tap) at a lower level.

IRN R050

Taps and combination fittings discharging in a non-domestic location and any appliances in premises where a higher level of protection is required, such as appliances in hospitals or other health care premises require a Type AUK3 tap gap.

IRN R060

Where in existing house installations a hose pipe is to be used from an existing hose union tap located outside a house and which is not provided with backflow protection, either:

- a. the existing hose union tap should be provided with a double check valve (Type EC or ED) located inside the building; or

b.the tap should be replaced with a hose union tap that incorporates a double check valve (type (HUK1)); or

c.a hose union backflow prevention (Type HA) or a double check valve (Type EC or ED) should be continuously fitted to the outlet of the tap; or

d.is legally installed in any premises.

IRN R070

The Water Supply (Water Fittings) Regulations 1999 and the Water Byelaws 2000, Scotland preclude the connection of rim feed or ascending spray type bidets or bidets with hand - held spray attachments directly to any supply pipe.

BIDETS WITH OVER-RIM SUPPLY ARRANGEMENTS

(a) Bidets installed in domestic locations of the over-rim type, that have no ascending spray and/or flexible hose may be supplied with cold and hot water through single or combination tap assemblies from either a supply pipe or a distributing pipe providing that a Type AUK2 air gap is provided between the outlet of the water fitting and the spillover level of the bidet and shall also comply with (c) below.

(b) Bidets installed in premises other than domestic locations of the over-rim type, that have no ascending spray and/or flexible hose where a higher fluid category of risk may be present, may be supplied with cold and hot water through single or combination tap assemblies from either a supply pipe or a distributing pipe providing that a Type AUK3 air gap is provided between the outlet of the water fitting and the spillover level of the bidet as (a) above and shall also comply with (c) below.

(c) In the case of a bidet equipped with a single outlet (single flow) mixing tap, shall also be installed in accordance with IRN R010. See Diagram 1 below.

Diagram 1 *

BIDETS (INCLUDING WCS ADAPTED AS BIDETS) WITH SUBMERGED WATER INLETS AND/OR FLEXIBLE HOSE WITH SPRAY OR JET HANDSET FITTINGS

Bidets, including WCs adapted as bidets, incorporating an ascending spray inlet or utilising a flexible hose or an arrangement with a spray or jet, are a fluid category 5 risk in that the ascending spray inlet could be contaminated with urine or other matter and the spray or jet handset could be deposited in the bidet or WC. Bidets of this type must not be supplied with water from a cold or hot water supply pipe or a common distributing pipe. The zone of backflow risk is shown and the highest part of this zone must be not less than 15mm below any cistern serving the bidet. See Diagram 2 below.

Diagram 2 *

Bidets of this type may:

a. be supplied with cold and/or hot water through Type AA, AB, AD or AUK1 backflow prevention arrangement or type DC device serving the bidet only. See Diagram 3: or Type AA, AB, AD or AUK1 air gap with or without blended water cistern or type DC backflow prevention device.

Diagram 3 *

b. be supplied with cold water from an independent distributing pipe serving the bidet only, or a common distributing pipe serving the bidet and which may also serve a WC or urinal flushing cistern at a lower level. See Diagram 4; or

c. be supplied with hot water from a water heater, which is supplied from an independent distributing pipe, that serves the bidet only. See Diagram 4: or

Diagram 4 *

d. where the bidet is at a lower elevation than any other outlets or appliances, be supplied with water from a common cold and/or hot water vented distribution pipe providing that;

(i) the elevation of the spillover level of the bidet, if there is no flexible hose; or
(ii) the elevation of the spray outlet, with the hose extended vertically above the spillover level of the bidet, whichever is the highest, is not less than 300mm below the point of connection with the distributing pipe which serves other appliances or outlets. See Diagram 5.

Diagram 5 *

The method of supplying water to an ascending spray and/or hose and spray bidet as illustrated in Diagram 3 and which is described in the formal guidance, is difficult to achieve in practice. The air gap should be located above the fully extended hose and spray, or zone of backflow risk, and this height may need to be increased to provide sufficient water pressure, to overcome friction loss in the pipes and fittings, in order to operate the ascending spray and hose spray effectively. This method of supplying blended water to a bidet involves complicated control methods as the control of water to the bidet itself has to be linked with the control of water flow, and temperature, upstream of the air gap, blended water cistern or DC device.

* For diagrams refer to the WRAS web site at www.wras.co.uk

IRN R080

Fittings incorporating fluid category 3 backflow protection shall be supplied by gravity from a cistern incorporating family 'A' backflow protection by means of a distributing pipe which does not supply any other fittings at a lower level.

IRN R090

Supply(ies) shall be via fluid category 5 backflow protection or by gravity from a cistern incorporating family 'A' backflow protection by distributing pipe(s) to which no fittings for other purposes are connected.

IRN R100

Supply(ies) shall be from storage.

IRN R110

For above ground use, cold water services only.

IRN R120

The fitting is to be so installed as to be readily accessible for examination, test, maintenance, replacement or operation.

IRN R130

All outlet connections to cisterns, which are arranged to receive thermal expansion water, shall be fitted both internally and externally with suitably protected support washers.

IRN R140

Sealed primary circuits and /or secondary hot water systems shall incorporate a means for accommodating the thermal expansion of water to prevent any discharge from the circuit and/or system except in an emergency situation.

IRN R150

An 'Approved' single check valve or some other no less effective backflow prevention device shall be fitted at the point of connection(s) between the supply and the fitting.

IRN R160

An 'Approved' double check valve or some other no less effective backflow prevention device shall be fitted at the point of connection(s) between the supply and the fitting.

IRN R170

Water Undertakers cannot be responsible for the quality of water passed through these fittings.

IRN R180

For use on the supply to one or more adjacent draw-off points only. These devices are not suitable for use as 'point of entry' units to treat the general supply of water to a building.

IRN R190

The supply to the storage cistern shall be discharged via a Type AA air gap.

IRN R200

For closed circuit use only.

IRN R210

The supply to this fitting/appliance shall be by means of a metered supply only.

IRN R220

Solder alloys containing lead shall not be used in connection with systems which convey or receive water supplied for domestic purposes.

IRN R230

Where installed for domestic purposes in commercial premises, or elsewhere with the written consent of the undertakers, the fitting shall be installed with a backflow prevention device adequate for the class of risk.

IRN R240

This cistern is not suitable for storing water for domestic purposes.

IRN R250

No vent, warning or overflow pipe from a primary feed cistern shall convey water to any cistern supplying water to a secondary system from which water may be drawn for domestic purposes.

IRN R260

The fitting is not suitable for conveying hot water.

IRN R270

Every storage cistern, except one supplying water to the primary circuit of a heating system, shall be fitted with a servicing valve on the outlet pipe (s).

IRN R280

A servicing valve shall be installed at the inlet to the fitting.

IRN R290

A drinking water tap shall be provided upstream of this fitting.

IRN R300

In some water supply areas it is advisable that copper cylinders and tanks be fitted with aluminium protector rods to promote resistance to corrosion. For further guidance consult your local water undertaker.

IRN R310

In some water supply areas require aluminium covers to be protected by a 'Approved' paint or lacquer. For further guidance consult your local water undertaker

IRN R320

In some areas of water supply only galvanised Grade A mild steel cisterns will be accepted. For further guidance consult your local water undertaker

IRN R330

In some water supply areas galvanising is required to be coated with a 'Approved' protective paint. For further guidance consult your local water undertaker

IRN R340

In some water supply areas galvanising is not accepted as a suitable means of internal protection for fittings. For further guidance consult your local water undertaker

IRN R350

Float-controlled valves or equivalent inlet devices should be securely and rigidly attached to the cistern and installed so that the valve closes when the level of the water is not less than 25 mm below the overflowing level of the cistern. Where the cistern is fitted with an approved alternative to a warning pipe, such as an indicator instrument or visual or audible alarm, the inlet valve is to close when the water level is not less than 50 mm below the overflowing level of the cistern.

IRN R360

Domestic unvented primary circuits may be filled or replenished by means of a temporary connection between the primary circuit and the supply pipe. An 'Approved' double check valve shall be installed at the point of connection to the supply pipe. A permanent connection between the primary circuit and the supply pipe may be made via a CA backflow prevention device or some other no less effective backflow prevention device.

IRN R370

All fittings manufactured from duplex (alpha-beta) brass are unacceptable for underground use, for backflow prevention devices and for certain products specified by the water undertaker.

IRN R380

Transient pressures may be evident from noise generated within the system as 'water hammer' - emanating from pipes as a result of rapid closure of a draw off tap or from rapid oscillation of a float operated valve.

IRN R390

An inlet strainer or line strainer shall be provided at the inlet to all WC flushing cisterns as from the 1st January 2001.

IRN R400

Where a pressure flushing valve is connected to a supply pipe or distributing pipe, the flushing arrangement shall incorporate a backflow prevention device consisting of a permanently vented pipe interrupter located not less than 300mm above the spillover level of the WC pan.

IRN R410

1. Every water closet pan shall be supplied with water from a flushing cistern, pressure flushing cistern or pressure flushing valve, and shall be so made and installed that after normal use its contents can be cleared effectively by a single flush of water, or where the installation is designed to receive flushes of different volumes, by the largest of those flushes.

2. No pressure flushing valve shall be installed -

i. in a house, or

ii in any building not being a house where a minimum flow rate of 1.2 litres per second cannot be achieved at the appliance.

3. No flushing device installed for use with a WC pan shall give a single flush exceeding 6 litres.

IRN R420

Written approval should be obtained from the water supplier before the installation of this fitting or appliance.

IRN R430

All water fittings located outside the thermal envelope, or those outside the building should be located and installed in such a manner that will ensure protection from freezing or damage by other means.

IRN R440

Supply(ies) shall be from storage, unless with the undertaker's consent.

IRN R450

This machine has not been tested to the consumption requirements of the regulations and therefore it may not be suitable for installation for domestic use.

IRN R460

This machine has no in built backflow protection and should therefore be installed in accordance with WRAS Document IGN 9-04-01 following an assessment of the risk involved

IRN R470

This machine has in built backflow protection to fluid category 3 but where installation may have a higher degree of risk an assessment may be undertaken and WRAS Document IGN 9-04-01 applied.

IRN R480

This machine has in built backflow protection to fluid category 4 but where installation may have a higher degree of risk an assessment may be undertaken and WRAS Document IGN 9-04-01 applied.