

Condensation Drainage Utilising Self Sealing Devices for Air Conditioning Systems

AIM

The aim of this technical solution is to inform practitioners on additional options for condensation drainage of air conditioning systems.

Note:

This technical solution may be read in conjunction with other technical solutions that contain further information relating to condensate drainage for air conditioning systems. This technical solution may also be used for applications such as high efficiency ducted heaters and evaporative coolers.

PLUMBING REGULATIONS 2008

The *Plumbing Code of Australia* (PCA) is adopted by and forms part of the *Plumbing Regulations 2008*. Part CI of the PCA specifies the objectives and performance requirements related to the installation of sanitary plumbing systems. *AS/NZS 3500.2: Plumbing and drainage Part 2: Sanitary plumbing and drainage* is a “deemed to satisfy” document listed in Part CI of the PCA and contains a section on “Connection of tundishes”.

The *Plumbing Regulations 2008* states that, “Residential heating, cooling and air-conditioning equipment must be installed in accordance with *HB 276: A Guide to Good Practice for Energy Efficient Installation of Residential Heating, Cooling and Air*

Conditioning Plant and Equipment.”

CONDENSATE DRAINAGE USING A SELF SEALING DEVICE

A self-sealing device is, in effect, a waterless trap which is designed to close after waste discharge and prevent the admittance of foul air into the building. It offers the advantage in the case of condensate drainage of continuing to prevent foul air entry during times of little or no flow when a conventional water trap seal may evaporate.

The device is designed for DN40 PVC-U pipe and can be installed in the vertical or on grade position but must be within a building, accessible and out of direct sunlight. An adaptor fitting (available from the manufacturer, or regular fittings) may be required for the upstream end of the valve to provide for the connection of DN40 pipe or a tundish (see Figure 1).

Permitted locations

1. Via the discharge pipe beneath a sink, trough or vanity basin.

A junction and device is installed by the sanitary plumber in the vertical section of discharge pipe (DN50 or DN40) below the trap seal of the fixture and the self-sealing device is installed in the vertical position as high as is practical to the underside of the bench top.

Technical Solution Sheet 7.03

The discharge pipe, device and condensate drain must be adequately supported. A tundish is required on the top of the device to provide a physical air gap (20mm) in the condensate drain (see Figure 2).

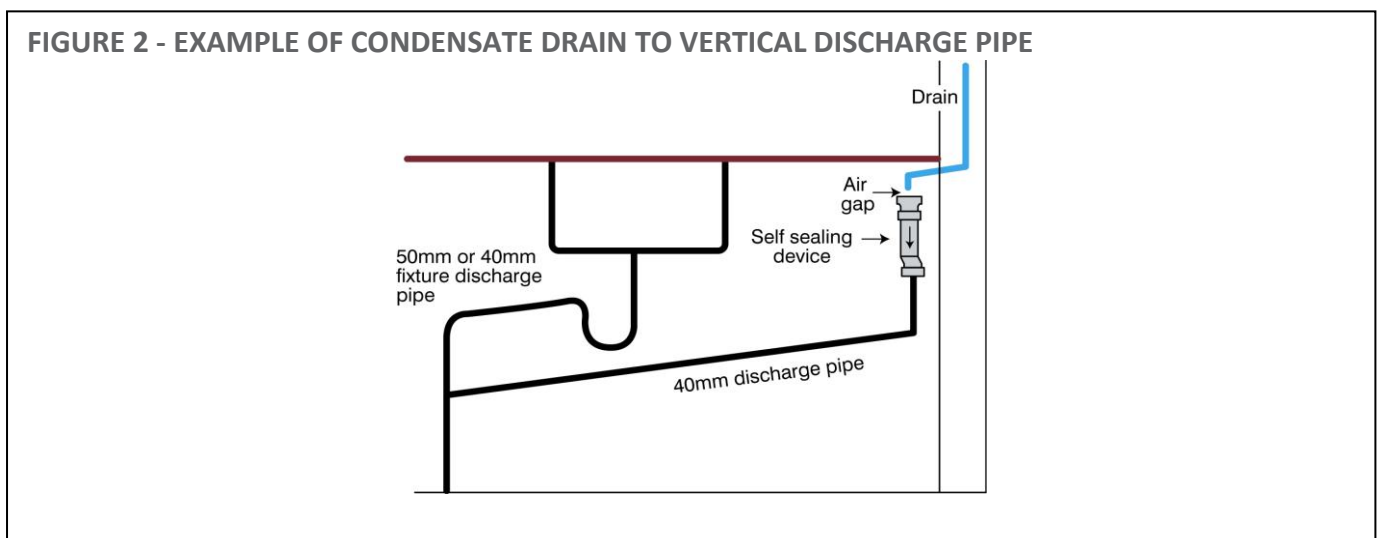
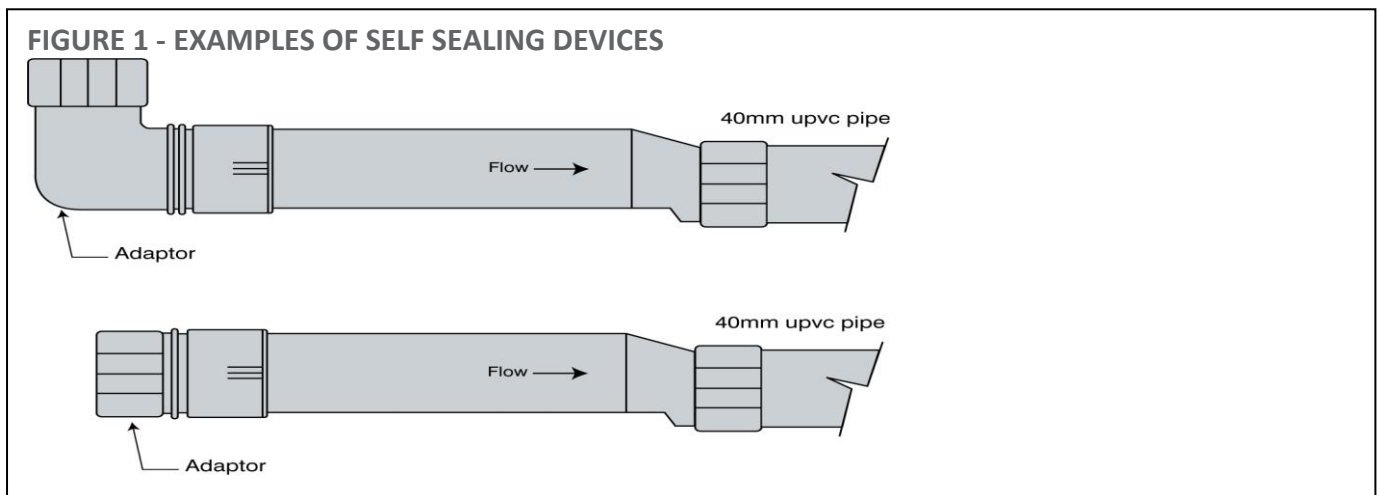
2. Via a dishwasher connection point on a DN50 fixture trap, alternatively the drain may discharge to the dishwasher connection point on a DN50 fixture trap using appropriate flexible hose and fittings providing all the conditions described in No. 1 can be met (see Figure 3).

3. Waste or vent in a roof / ceiling space. The condensate drainage from an air conditioning or heating appliance may be

discharged to a vent pipe via a self-sealing device located in a ceiling or roof space. The junction and device is to be installed by the sanitary plumber and must be supported in accordance with [AS/ NZS 3500.2](#). It is preferable for the device to be installed in the vertical position with an air gap provided over a tundish (see Figure 4).

If it is not practical to install the device in the vertical position, it is acceptable in an on-grade position as long as a tundish incorporating an air gap is provided.

In the case of ceiling space installations, test the system under full operating conditions to ensure there is no splashing or spillage from the tundish onto the ceiling (see Figure 5).



Technical Solution Sheet 7.03

FIGURE 3 - EXAMPLE OF CONDENSATE DRAIN TO DISHWASHER CONNECTION

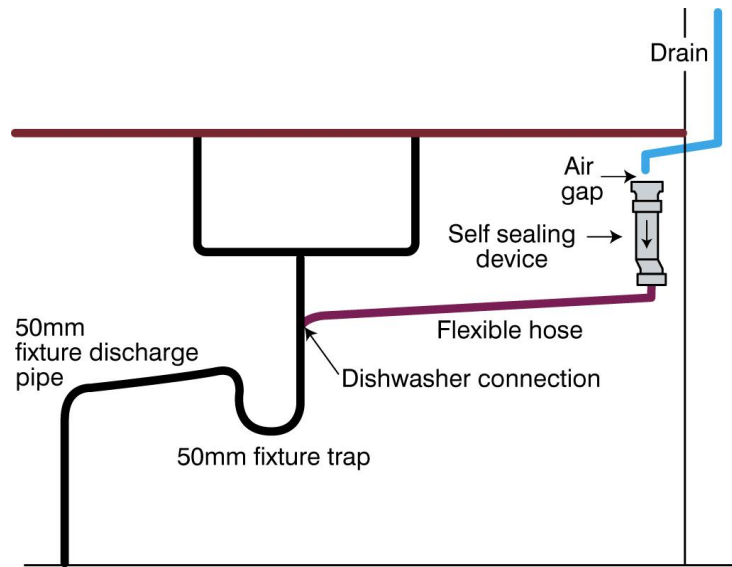


FIGURE 4 - EXAMPLE OF CONDENSATE DRAIN TO DRAINAGE VENT VERTICAL

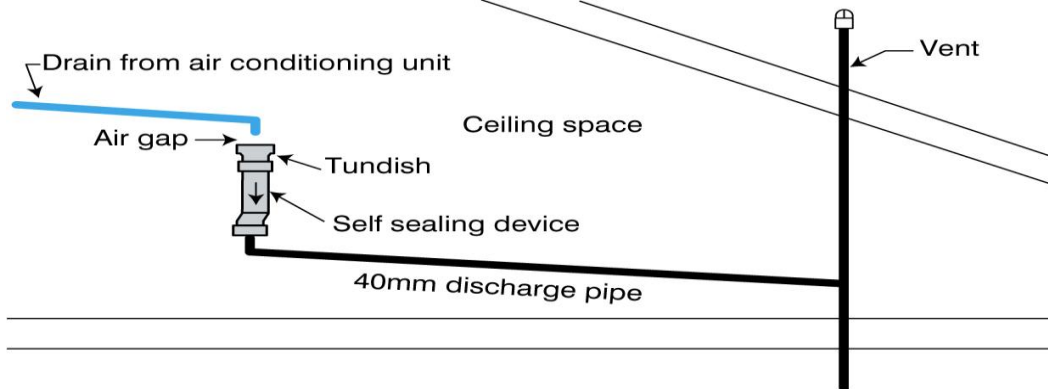


FIGURE 5 - EXAMPLE OF CONDENSATE DRAIN TO DRAINAGE VENT HORIZONTAL

