Condensate Drainage Utilising Self-Sealing Devices for Air-Conditioning Systems

TECHNICAL SOLUTION SHEET 7.03 MECHANICAL SERVICES / REFRIGERATED AIR-CONDITIONING

VICTORIAN BUILDING AUTHORITY
BUILDING CONFIDENCE

This Technical Solution Sheet 7.03 replaces any previous versions.

Aim

This technical solution sets out permitted options for condensate drainage from air-conditioning systems discharging to internal sanitary waste discharge pipes or vent pipes.

Plumbing regulatory requirements

The *Plumbing Regulations 2018* set out the requirements for plumbing work in Victoria, including the standards to be complied with for each class of plumbing work.

The standards set out in Schedule 2 of the Regulations for air-conditioning are:

- HB 276: A Guide to Good Practice for Energy Efficient Installation of Residential Heating, Cooling and Air-Conditioning Plant and Equipment; and
- AS/NZS ISO 5149 Parts 1 to 4: Refrigerated systems and heat pumps – safety and environmental requirements.

The Plumbing Code of Australia 2019 (PCA), Schedule 1, Victorian Variations and Additions, Vic Section G, specifies an additional standard to be complied with:

- AS/NZS 5141: Residential heating and cooling systems - minimum applications and requirements for energy efficiency performance and comfort criteria.

Internal condensate drainage using a self-sealing device

A self-sealing device is a waterless trap that is designed for minimum 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. Refer to Figure 1.

Permitted locations

Tundishes and self-sealing devices must be used for condensate drainage connections internal of the building. Refer to Figures 2 to 5 for guidance on the approved methods of discharge for condensate drains from air-conditioning systems.

Want to know more?

If you have a technical enquiry, please email
plumbingtechnicaladvice@vba.vic.gov.au
or
call 1300 815 127.

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733 Bourke Street Docklands VIC 3008

www.vba.vic.gov.au

Further information

Note:

This technical solution can be read in conjunction with 7.05 and 7.08 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 condensate drainage on high efficiency ducted heaters.

Figure 1 Examples of self-sealing devices

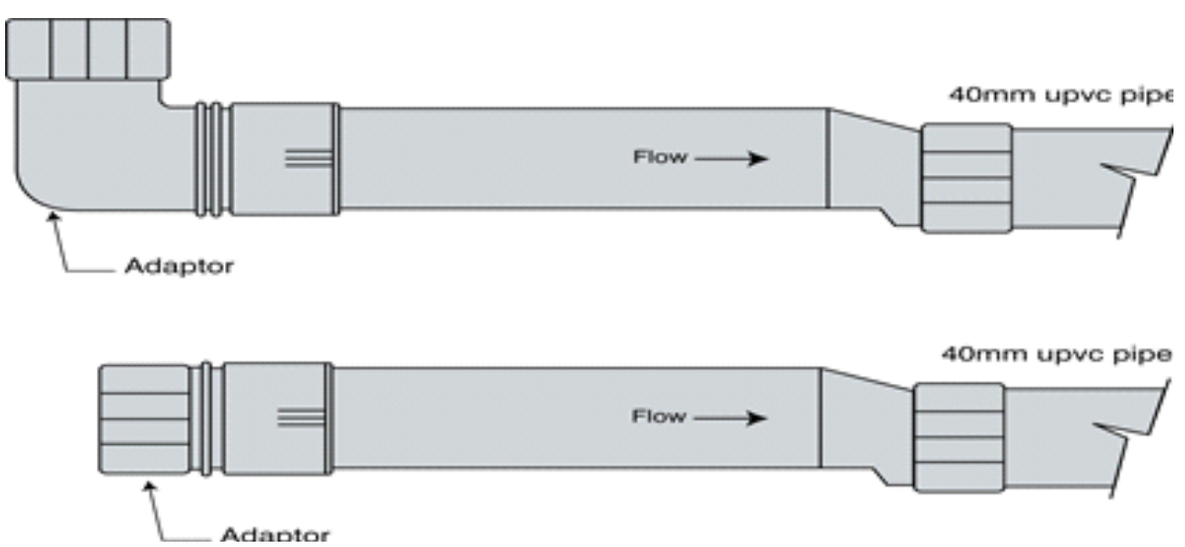
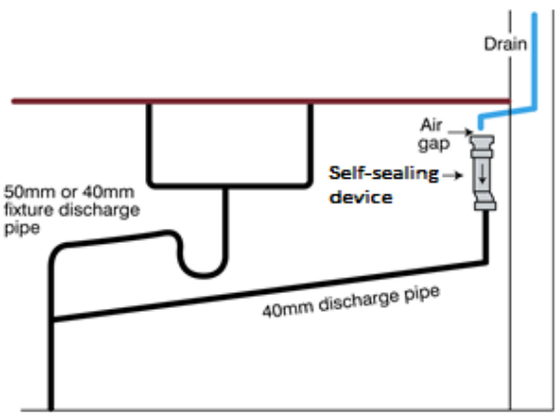


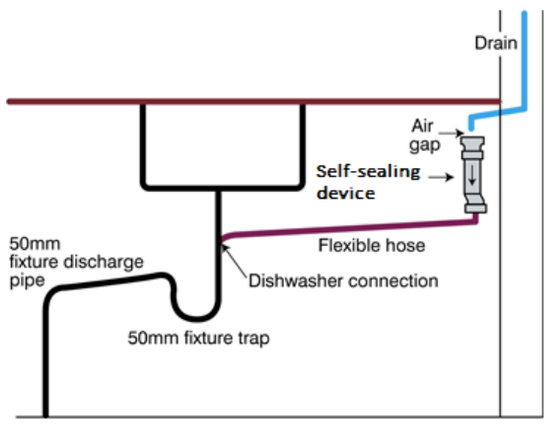
***Figure 2** – Example of condensate drain to vertical discharge pipe*
(Via the discharge pipe beneath a sink, trough or vanity basin)



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.

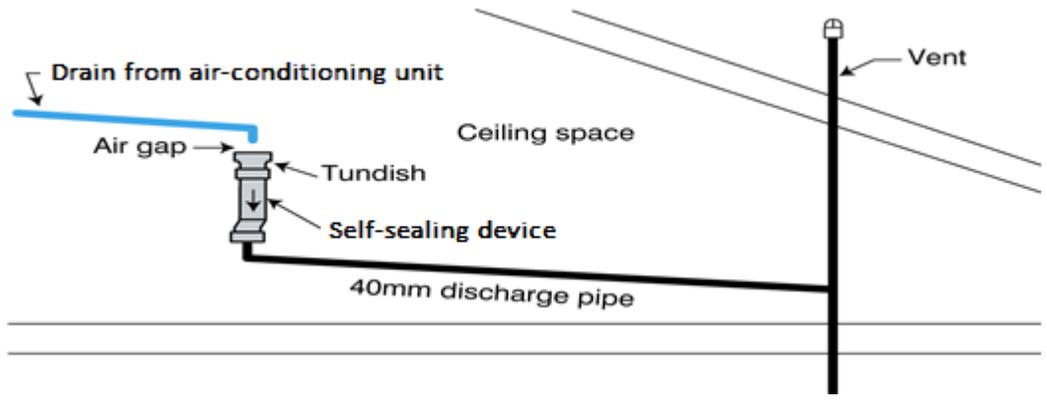
The discharge pipe, device and condensate drain must be adequately supported. A tundish is required on the top of the device to provide a physical air gap (20mm) in the condensate drain.

***Figure 3** – Example of condensate drain to dishwasher connection*
(Via a dishwasher connection point on a DN50 fixture trap)



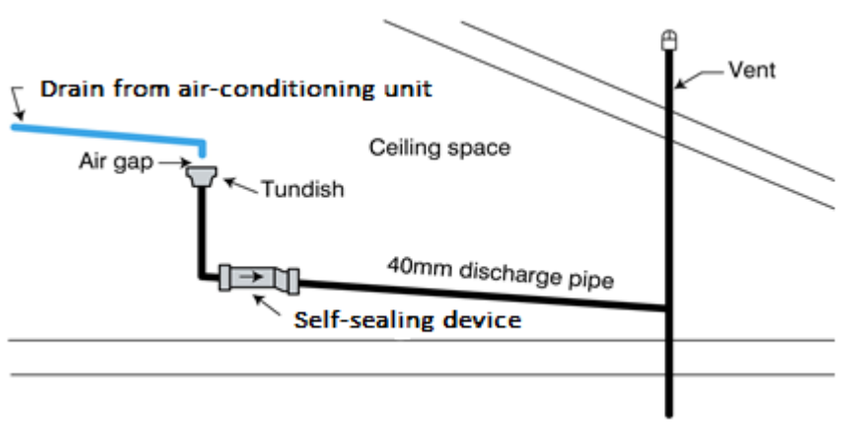
Discharge drain may discharge to the dishwasher connection point on a DN50 fixture trap using appropriate flexible hose and fittings providing all the conditions described in Figure 2 can be met.

***Figure 4** – Example of condensate drain to drainage vent (Vertical)*
(Via 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 are 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.

***Figure 5** – Example of condensate drain to drainage vent (Horizontal)*
(Via waste or vent in a roof / ceiling space)



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.