



Connection of condensate waste to sanitary plumbing and drainage systems

This technical note provides clarification on the requirements for connecting condensate from refrigerated air conditioners and cabinets, sterilizers, autoclaves and similar appliances to sanitary or drainage systems. A demarcation is included to separate HVAC mechanical services work and plumbing work that can only be performed by licensed plumbers.

Regulatory requirements

Condensate from refrigerated cabinets, commercial coffee and ice-making machines, sterilizers, autoclaves and similar appliances that produce condensate shall discharge over a tundish in accordance with AS/NZS 3500.2:2021, clause 13.20. Regulation 53 of the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations) requires that refrigerated air conditioners shall be discharged in the same manner.

The installation of a tundish and drain connected to a plumbing system is considered plumbing work and therefore all conditions of the Regulations and prescribed plumbing standards apply. The installation of a condensate drain from any of the appliances mentioned above, with an air gap over a tundish or discharging to any location, other than a plumbing system is not deemed to be regulated plumbing work.

Connection of tundishes

AS/NZS 3500.2:2021, clause 13.21 states that tundishes may be connected in the following ways:

- ▶ Through an untrapped wastepipe not smaller than DN 25 to the riser of a floor waste gully only. Maximum unvented length 10 m as per diagram 1.
- ▶ Through a trapped wastepipe not smaller than DN 40 to either:
 - (i) a floor waste gully. Maximum unvented length 10 m as per diagram 2;
 - (ii) a disconnector gully. Maximum unvented length 6 m as per diagram 2; or
 - (iii) a fully vented modified stack, single stack, or single stack modified system. Maximum unvented length 2.5 m as per diagram 5.

- ▶ To a fixture trap, when the tundish and discharge pipe is connected to a fixture trap:
 - (i) the connection shall be made above the level of the water seal; and
 - (ii) the top of the tundish shall be above the flood level rim of the fixture as per diagram 7.
- ▶ Through a DN 40 trap and DN 65 wastepipe to either:
 - (i) a floor waste gully. Maximum unvented length 10 m as per diagram 3;
 - (ii) a disconnector gully. Maximum unvented length 10 m as per diagram 3;
 - (iii) a vented drain. Maximum unvented length 10 m as per diagrams 4 and 9;
 - (iv) a fully vented modified stack, single stack, or single stack modified system. Maximum unvented length 2.5 m as per diagram 6;
 - (v) a reduced velocity aerated stack system. Maximum unvented length 10 m as per diagram 6; or
 - (vi) a DN 40 or DN 50 common discharge pipe connected to a fully vented modified stack, disconnector gully or vented drain as per diagram 8.

Pipes discharging over a tundish shall have an air gap of a size at least twice the internal diameter of the discharging pipe.

Tundishes must be installed in accessible locations and must be visible if the discharge is from a source that will result in wastage of water if undetected. Examples include the drains from a temperature/pressure relief or expansion valves.

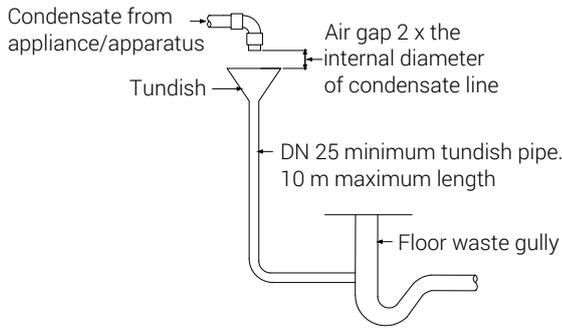


Diagram 1: DN 25 tundish discharge pipe to a floor waste gully

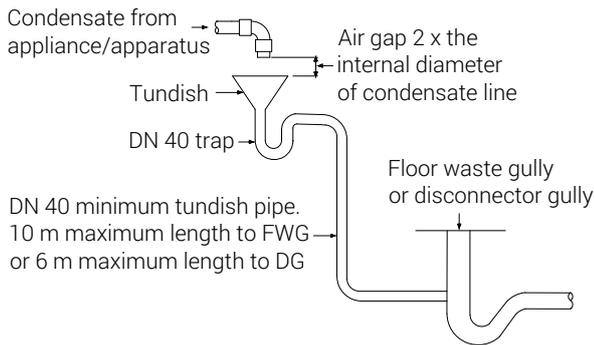


Diagram 2: DN 40 tundish discharge pipe to a floor waste or disconnector gully

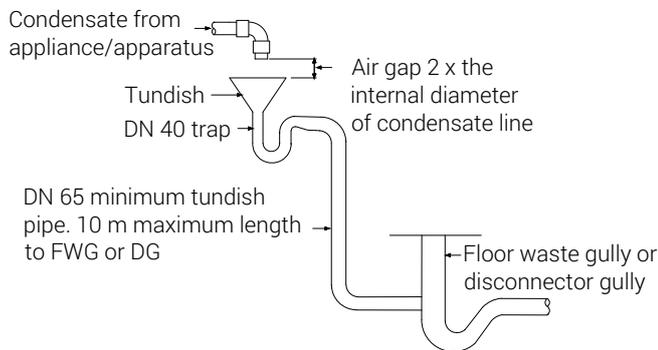


Diagram 3: DN 65 tundish discharge pipe to a floor waste or disconnector gully

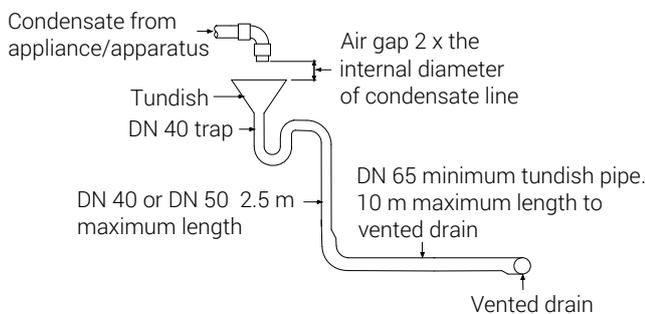


Diagram 4: DN 40 or 50 tundish discharge pipe to a DN 65 vented drain

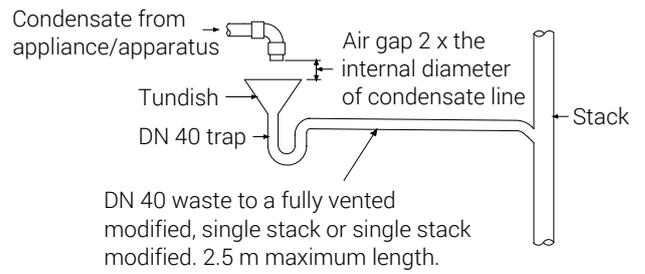


Diagram 5: DN 40 tundish discharge pipe to a stack

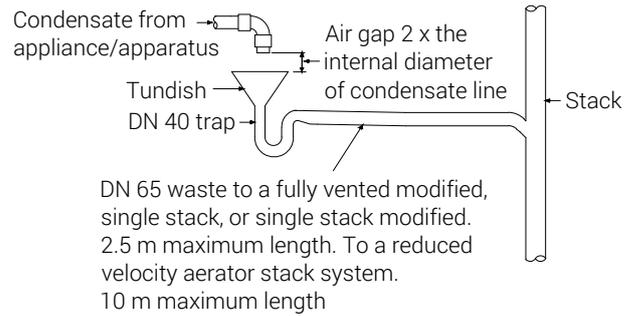


Diagram 6: DN 65 tundish discharge pipe to a stack

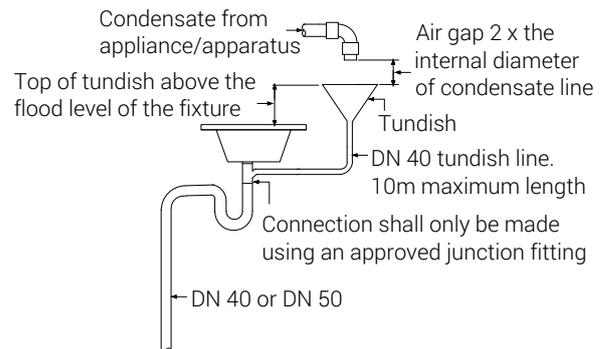


Diagram 7: DN 40 tundish discharge pipe to a fixture trap riser

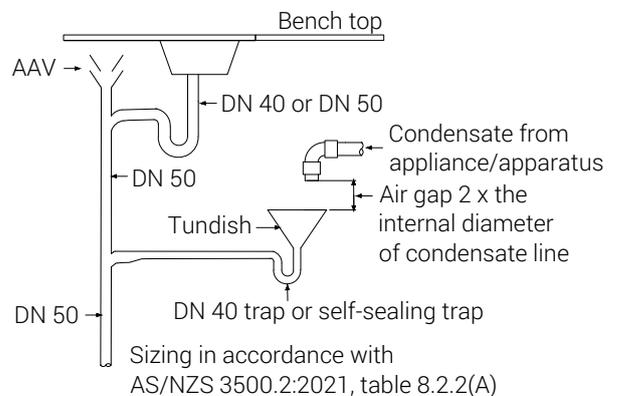


Diagram 8: DN 40/50 tundish discharge pipe to a fixture discharge pipe

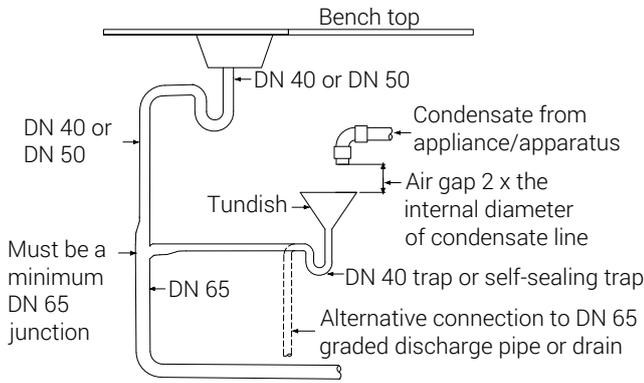


Diagram 9: DN 40 or 50 tundish discharge pipe to a DN 65 fixture discharge pipe

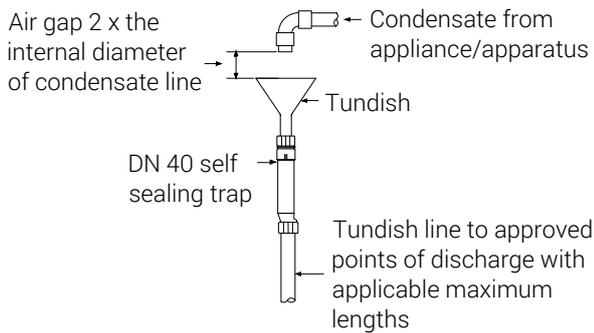


Diagram 10: DN 40 tundish discharge pipe through a vertical self-sealing trap

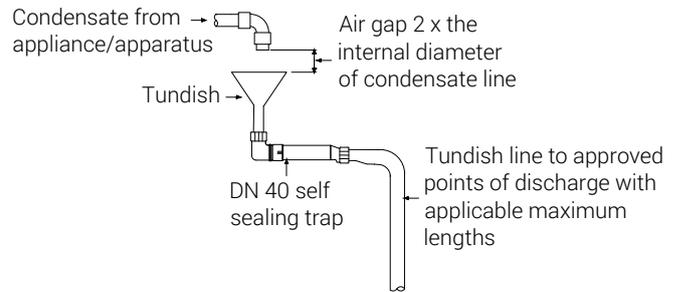


Diagram 11: DN 40 tundish discharge pipe through a horizontal self-sealing trap

Connection with self-sealing devices

Self-sealing traps (WaterMarked to WMTS-047) are permitted to be used as tundish waste traps under the same provisions as water traps as shown in diagrams 10 and 11.

Notes:

1. It is not acceptable to use the appliance connection nipple on fixture traps to connect a DN 20 mm flexible hose. Connection must be made using approved junction fittings.
2. Due to the risk of foul air being drawn into the air conditioning system, condensate lines shall terminate over the tundish with an approved air gap in all circumstances when the tundish is connected to a sanitary or sanitary drainage plumbing system.

Notes

The technical note series is issued by the Plumbers Licensing Board to assist the plumbing industry to comply with the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations) applicable to plumbing work in Western Australia.

Each technical note is to be read in conjunction with Part 6 of the Regulations that currently adopt the Plumbing Code of Australia (PCA) and the deemed to satisfy provisions of AS/NZS 3500:2021, parts 0, 1, 2 and 4 but modified in certain matters to suit the State's building approach and other local conditions.

Feedback

The Plumbers Licensing Board welcomes your feedback. If you have any questions on this technical note or any suggestions on any areas of plumbing work that the technical notes should cover, please contact the Board's Senior Technical Officer on (08) 6251 1377.

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