

Gas Information Sheet No. 18

Connecting commercial catering equipment



This gas information sheet provides information about installing and connecting commercial catering equipment and the current clause requirements in AS/NZS 5601.1.

A significant number of the gas applications Energy Safe Victoria (ESV) receives are for commercial kitchen installations, and a major reason for failed commercial kitchen inspections is the incorrect installation of appliances and hose assemblies. As a result, ESV has provided gasfitters with several aides to help achieve a compliant commercial kitchen installation that include:

- an animated guide to commercial kitchen installations and compliance with the Australian standard
- a self-audit check sheet.

A quick guide to compliant installation

Commercial catering equipment must be certified and installed in accordance with AS/NZS 5601.1 Gas Installations Part 1, but as a quick guide to a compliant installation, any appliance on castors, rollers, wheels, or that is designed to be slid out for servicing must be:

- connected to a consumer pipe with a hose assembly
- able to be isolated and disconnected from the gas supply
- attached to a wall with a restraint shorter than the hose assembly and strong enough to not break when the appliance is moved.

Hose assemblies (musts and must nots)

Hose assemblies connected to a gas appliance must meet a series of requirements.

A hose assembly **must** be:

- used as a complete assembly (some flexible hose assemblies require additional, specifically manufactured fittings to ensure the integrity of the connection)
- certified as conforming with AS/NZS 1869 Hose and Hose Assemblies for Liquefied Petroleum Gases (LP Gas), Natural Gas and Town Gas
- either a class:
 - B (maximum working pressure of 14 kPa and working temperature -20°C to +125°C), or
 - D (maximum working pressure of 2600 kPa and working temperature of -20°C to +125°C)
- a large enough diameter to cater for the appliance's maximum gas load
- as short as practicable.
- subject to the specific appliance requirements.

A hose assembly **must not** be:

- joined together with another hose assembly
- longer than 3 meters
- installed where it will be exposed to temperatures greater than the maximum temperature specified by the manufacturer
- used as a restraint for an appliance
- subjected to strain, abrasion, kinking or permanent deformation.

General requirements

Hose assembly arrangement

The preferred arrangement is for the hose to hang freely in a 'U' shape. Always avoid strain on the hose assembly and its connections. Figure 1 is what a hose assembly should look like when fully installed (including the restraints and buffers).

Figure 1 – The correct way to configure and install a hose assembly



The hose assembly fixed gas connection should be installed a suitable distance from the appliance connection to create a hanging radius that prevents the hose from kinking.

The bottom of the hose should also be at least 50 millimetres from the floor.

Appliance connections

There are three allowable connection methods depending on the hose assembly setup:

- Permanent connection and union joint. Where the hose assembly is permanently connected to the appliance, a manual shut-off valve and union must be provided at the hose assembly's inlet end.
- Permanent connection and quick-connect device. Where the hose assembly is permanently connected to the appliance, a quick-connect device must be provided at the hose assembly's inlet end, enabling the appliance to be disconnected for cleaning purposes.
- Quick-connect device and manual shut-off. Where the hose assembly is connected with a quick connect device at the appliance, a manual shut-off valve must be provided at the hose assembly's inlet end.

The currency and accuracy of this gas information sheet cannot be guaranteed once printed or saved to a storage device. If in doubt, please check the ESV website for the current version.

Appliance restraints

Commercial catering equipment connected by hose assembly must be restrained to prevent stress being applied to the hose connections when the appliance is moved, where the accepted method of restraint:

- is by chain or wire fixed to the appliance and the wall
- should not exceed 80% of the hose assembly's length.

Buffers

Installing a buffer (or spacer) behind an appliance helps prevent strain, abrasion, or kinking of the hose when the appliance is moved back into position. Given the mobility of the appliance, buffers also ensure that surrounding combustible surfaces (behind and on each side of the appliance) are protected and minimum manufacturer clearances are maintained.

Fitting wheels or castors

Fitting wheels or castors to appliances supplied with support legs should only be done with the components supplied by the appliance manufacturer and in accordance with the manufacturer's specifications.

Similarly, appliances designed with wheels must not have the wheels rendered inoperable so as to avoid the installation of a hose assembly. Wheels may only be replaced with support legs supplied by the appliance manufacturer in accordance with the manufacturer's specifications.

Warning: any modifications to an appliance outside of the manufacturer's specifications may void the appliance certification.

Connecting appliances not designed to be moved

Always read the manufacturer's installation instructions to determine the recommended method of connection. As a general rule, appliances that are not designed to be moved should be connected by rigid pipe or a limited flexibility connection (semi-rigid pipe).

The appliance isolation valves and regulators must also be accessible for the purpose of isolation, servicing and adjustment. Accessible is defined as access being gained without hazard or undue difficulty. This may be achieved by locating the isolation valve and regulator next to the appliance (for example, beneath a bench) or underneath the appliance but brought forwards for ease of access.

A gas appliance connection must:

- include a means of disconnection
- be downstream of the means of isolation.

Limited flexibility connections may be used for the final connection only in accordance with the manufacturer's instructions and provided the appliance is also fixed to prevent movement.

Limited flexibility connections are not an alternative to a hose assembly and must comply with AS 4631-2005 Limited Flexibility Connectors for Gas and be certified.

Prohibited installation methods

A hose assembly must not pass:

- from one room to another through a doorway with a closable door
- through a wall, portable partition, ceiling or floor
- through a fixed partition, unless the opening in the partition is large enough to accommodate the hose and its attachments without causing damage

The currency and accuracy of this gas information sheet cannot be guaranteed once printed or saved to a storage device. If in doubt, please check the ESV website for the current version.

- through the panel or casing of the appliance unless the appliance is specifically manufactured that way to avoid damage to the hose assembly.

Further information

Contact ESV's Technical Information Line on 1800 652 563, or email gastechnicalenquiry@energysafe.vic.gov.au.

The currency and accuracy of this gas information sheet cannot be guaranteed once printed or saved to a storage device. If in doubt, please check the ESV website for the current version.