

gas focus

Gas isolation of water heaters

Prior to 1 August 2003, a means of gas isolation was not required on gas water heaters installed at a single residential building.

Amendments to the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* (effective from 31 July 2003 after a six month transitional period) includes a new requirement to provide a means of gas isolation on water heaters installed in a single residential building – AS 5601/ AG 601 – 2002 Clause 5.6.2 Table 5.2.

A high percentage of Notice of Defects issued to gas fitters is for failing to install such a means of gas isolation to a water heater.

There are four easy points to remember to achieve this compliance:

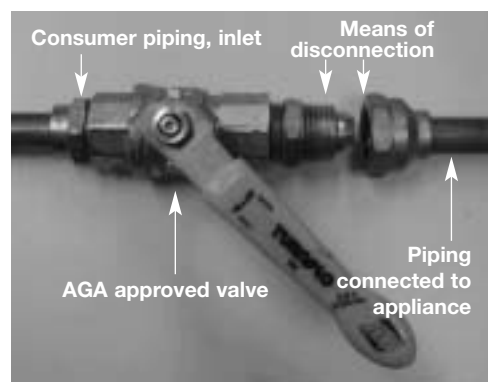
1. always use an AGA approved valve;
2. make sure the valve is accessible;
3. make sure the means of disconnection is on the outlet of the valve;
4. if an appliance is not connected, make sure the valve is capped or plugged.

There are additional Clauses which also require consideration when providing a means of isolation with a valve:

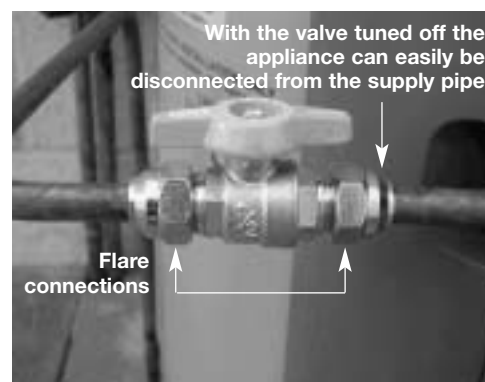
- Clause 3.3.5 Manual shut off valves
A manual shut off valve shall comply with the following:
 - (a) Subject to (b), meet the *Type 1* or *Type 3* valve requirements of AG 201 and be *certified*.
 - (b) Be capable of being connected to the inlet piping such that, when the outlet piping is disconnected, the valves will remain securely attached to the inlet piping.
- Clause 5.6.3 Means of disconnection
The appliance connection shall include a means of disconnection. Where a means of isolation is provided to satisfy Clause 5.6.2, the means of disconnection shall be at the outlet of the means of isolation.
- Clause 2.5.2 Outlet for future connection to be sealed
Where an outlet has been provided for connection of an appliance but is not to be used immediately, and the outlet is not fitted with a *Type 1* or *Type 2 quick-connect device* which complies with AG 212, it shall be sealed using a plug, cap, blank flange or a capped or plugged manual shut off valve.

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An approved method of isolation, showing the means of disconnection on the outlet of the valve



An alternative method of isolation, with a flared union on the inlet and outlet of the valve

Gas bayonet fitting ventilation requirements

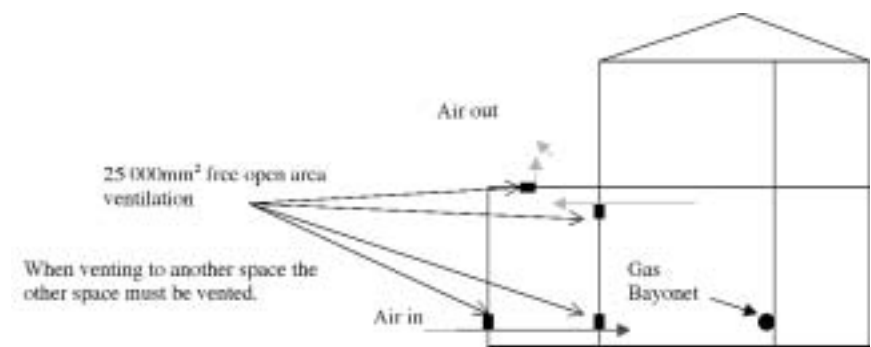
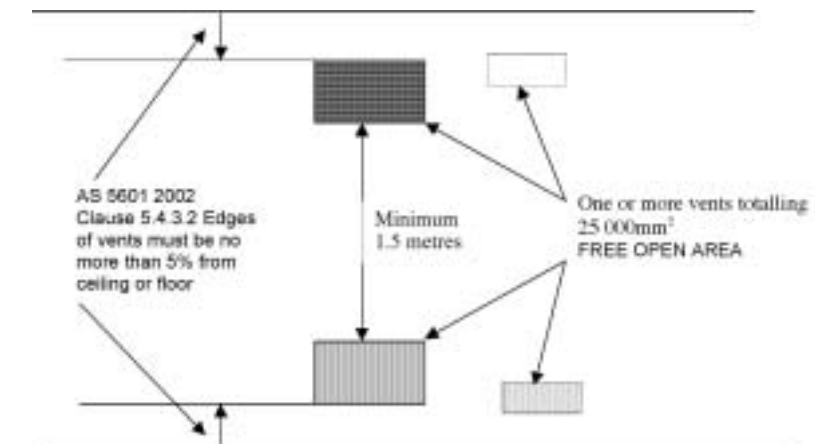
The *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* (the Regulations) require that either adequate ventilation exists or is installed in areas where an unflued gas heater is to operate and where a gas bayonet fitting is installed.

The requirements for ventilation when installing a gas bayonet fitting are set out in Clause 504 (2)(b) of the Regulations which states:

- “(b) the room has a volume of more than 30 cubic metres, and 2 permanent ventilation openings —
- (i) one of which is situated near the top of the room and the other near the bottom of the room;
 - (ii) that are separated by a distance of not less than 1.5 metres measured vertically; and
 - (iii) each of which has an aggregate open area of not less than 25 000 mm².”

When installing an unflued space heater or gas bayonet fitting, both the Regulations and AS 5601/AG 601 must be consulted to ascertain the installation requirements. Adequate ventilation must be provided to ensure an unflued gas appliance can operate safely.

The purpose of ventilation is to provide a continuous free flow of air from outside atmosphere to travel through and freely exit the space in which the appliance is installed. This provides adequate fresh air for combustion and for dilution of the products of combustion, thus ensuring the gas appliance operates in a safe manner. These requirements also apply to spaces in which a gas appliance may be operating.



If sufficient ventilation is not available, incomplete combustion may occur, allowing carbon monoxide to form. If venting into another space, that space must in turn be vented so that a free flow of air to outside atmosphere is achieved. All other subsequent spaces must also be vented in the same way as the space with the bayonet fitting.

Ventilation must:

- have an aggregate open area of not less than 25 000 mm²;
- be at high and low level; and
- have a minimum vertical separation of 1.5 metres.

Additional requirements are set out in Clause 5.4 of AS 5601 2002 Natural ventilation direct from outside.

When installing or assessing ventilation, the gas fitter must consider the following:

- Does the ventilation have a free open area of at least 25 000 mm²?
- Does it provide a path to outside atmosphere?
- Are there high and low vents?

- Are both high and low vents permanent?
- Do both the high and low ventilation locations meet the requirements of the regulations?
- Is the ventilation specifically for the gas bayonet fitting or for another purpose? If the ventilation is for another purpose such as:
 - o an extraction fan or air conditioning unit; or
 - o does not have a direct pathway to outside atmosphere; or
 - o can be closed or covered, then it is not acceptable.

Unflued space heaters up to 25 MJ/h may be used in a residential (domestic) situation. Interconnecting open plan rooms with more than one bayonet fitting installed may require additional ventilation. The gas supplier inspector may be able to provide further advice on the ventilation requirements in these circumstances.

Notice of Completion and Compliance Badge

Regulation 28 of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* requires a gas fitter who carried out or supervised particular gasfitting work to submit a Notice of Completion (NOC) and to fix an approved badge or label next to the installation.

A NOC is not required when completing service work or when rectifying defective gasfitting work detailed in a Notice of Defects.

In the NOC, the gas fitter must identify the particular part of the gas installation on which gasfitting work was carried out or that was affected by the work. The gas fitter must also certify that the gasfitting work meets with the following:

- complies with the *Gas Standards Act 1972* and its regulations;
- is left safe to use; and
- is completed to a trade finish.

A gas fitter must take responsibility for the work he or she carried out – the NOC needs to reflect this.

It is therefore very important that the NOC is completed correctly otherwise the gas fitter may be held responsible for work that he or she did not carry out.

Completing the NOC correctly also ensures that gas supply, particularly to a new installation, is not delayed.

All relevant sections of the NOC must be filled out correctly.

A NOC incorporates the following nine sections:

Location of Installation – provide customer details and address of installation.

Mobile Installations – if it is a mobile installation, tick the relevant box, eg. caravan, marine craft or automotive.

Fixed Installations – if it is a fixed installation, provide the gas supplier details and tick relevant box if applicable.

Installation details – identify the type of gas, type of installation and operating pressure of installation.

New connections – tick the relevant box to identify a new connection, additional work or repair. Also, tick a box or combination of boxes to identify the part of the work carried out, eg. pipe work, commissioning, appliance connection. In the example, the gas fitter did not commission the appliance and therefore was not responsible for appliance commissioning. The gas fitter who carried out the commissioning of the appliance must complete a separate NOC and fix another metal badge to identify that he or she was responsible for this part of the installation.

Type A – complete this section if it is a domestic or commercial appliance as listed in Schedule 1 of the Regulations.

Type B – complete this section if it is an industrial gas appliances greater than 10 MJ/h and not a Type A appliance or mobile engine.

Comments and Additional Details – opportunity for the gas fitter to provide additional information and identify any non-compliant or dangerous installations. It is a mandatory requirement to report unsafe installations and gas incidents (**Regulations 42 and 42A**).

Administration details – licensed gas fitter's details and registration number must be provided. There is provision for inspector's signature, normally Type B gas appliance inspector, if available. The licensed gas fitter must sign to certify his or her work as complying with the regulations and that the installation is safe for use by the customer. When signing the NOC, a gas fitter is also declaring that he or she is currently registered to carry out the work specified in the Notice.

Notice of Completion filled in correctly

Disciplinary action taken by the Director of Energy Safety

1 February 2004 to 30 April 2004

The Director of Energy Safety dealt with 1 gas fitter during this period.

Formal Inquiry

Michael John Dohler (GF 010351)

Mr Dohler carried out substandard gasfitting work which resulted in

four Notices of Defects being issued to him. A formal enquiry was held on 15 April 2004 into Mr Dohler's activities.

The Director ordered Mr Dohler to work under the supervision of an appropriately licensed gas fitter until such time as he has undertaken and successfully completed the Gas Legislation Course.

Prosecutions for breaches of the *Gas Standards Act 1972* and *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*

1 February 2004 to 30 April 2004

<i>Breach</i>	<i>Name (and suburb of residence at time of offence)</i>	<i>Licence No.</i>	<i>Fine \$</i>	<i>Costs \$</i>
<i>Carried out gasfitting work without holding the appropriate licence classification Section 13A(2) GSA</i>	<i>Laviano Pasquale (Canning Vale)</i>	<i>GF 002510</i>	<i>300.00</i>	<i>387.70</i>
<i>Carried out gasfitting work without holding the appropriate licence classification Section 13(A) GSA</i>	<i>Geoffrey Burgess (York)</i>	<i>GF 002671</i>	<i>300.00</i>	<i>497.70</i>
<i>Carried out gasfitting work without holding the appropriate licence classification Section 13(A) GSA Regulations 28(2), 28(3)(B),28(3)(C) & 26 GSR</i>	<i>Dean Beaumont (Trigg)</i>	<i>GF 007940</i>	<i>2,500.00</i>	<i>227.70</i>
<i>Used incorrect gas to pressure test and did not purge the system Regulations 8, 20(1)(B), 26(2) & (3) GSR</i>	<i>Troy Elari (Lancelin)</i>	<i>GF 001692</i>	<i>6,000.00</i>	<i>607.70</i>
<i>Failed to provide Notice of Rectification Regulation 30 GSR</i>	<i>Anthony Lumley (Alexander Heights)</i>	<i>GF 000406</i>	<i>2,150.00</i>	<i>555.40</i>

GSA Gas Standards Act 1972

GSR Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999

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