

## Atmos Heating Systems update 21<sup>st</sup> Dec 2012 Version2.

### Atmos Multi boilers with 80mm twin pipe air/flue systems

The Industry Working Group responsible for guidance relating to concealed room-sealed chimney/flue systems have published guidance through a Gas safe Register Technical Bulletin (TB008 Edition 2.1 dated 1.4.2012) relating to the legal obligation on registered engineers to examine and confirm the effectiveness of concealed chimney/flue systems connected to whenever gas work is carried out. This industry guidance recommends that inspection hatches are installed to allow inspection of the chimney/flue system to confirm its condition and effectiveness. In some buildings this can be very difficult or impractical. *However TB008 states "The guidance does not apply to chimney systems installed in enclosures such as constructional chimneys, or purpose designed ducting which are so sealed that any spillage of products of combustion cannot pass from the enclosure to any room or internal space other than the room or internal space in which the boiler is installed"*.

Atmos are able to offer an alternative solution, which is to provide a continuous flexible flue pipe so there are no joints, only at the beginning and end. Inspection hatches are not required, but the joints at each end must be inspectable. In the case of an 80mm flue pipe, an 80mm flexible pipe can be used to replace the existing, or alternatively a 60mm pipe (69mm OD) can be used to insert inside the existing 80mm flue pipe (76mm ID) or duct. Further guidance on the use of flexible flueing options has been issued by HHIC through the publication of TB 139.

This solution is only applicable to the flue pipe, and does not apply to the combustion air supply pipe, as it is not necessary to provide inspection hatches to the air supply pipe. When calculations are done for the maximum flue pipe length, the length and diameter of the air supply pipe must be taken into consideration.

**Flexible flue pipe.** The flexible pipe (80mm and 60mm) supplied by Atmos is certified for use with condensing gas boilers, available as green plastic PPS (ROAX) or stainless steel (INOX). Stainless steel should be used where the chimney is rough and could damage the pipe as it is inserted. This is the only flexible flue pipe that is approved by Atmos for use in this application. It must not be used for horizontal applications, and should only be used for vertical applications. It can be used at an angle of no more than 45 degrees to the vertical, but this should be kept to a minimum. Bends should be made with as long a curvature as possible, to minimise resistance and strain on the pipe.

**60mm flexible flue.** The resistance of the 60mm flue pipe is 3 times higher than 80mm pipe, so when calculating the maximum permissible length of 60mm flue, the pipe and fitting lengths in 60mm must be multiplied by a factor of 3. Where bends are used, provided they are slow and no more than 45 degrees, an equivalent length of 1m should be used. It is the responsibility of the installer to ensure that the equivalent length of the air/flue system as per the Atmos Multi manual, should be no more than 64m. This can however be increased to 76m with a very small (less than 2%) loss of power on the maximum hot water rating, and no loss on central heating power.

**Fitting.** Each flexible flue kit supplied by Atmos comprises a coil of pipe, plus a special top and bottom stainless steel connector to connect to 80mm pipe, or as required. It is essential that the flue pipe is fixed at the top with the bracket provided, so that the weight of the pipe is carried by the

bracket and not the joint. The termination of the flue pipe must be made as per the Multi Installation manual.

**Connection to the boiler.** The flexible flue pipe should terminate at the base of the flue system with the bottom connector, so that none of the flexible pipe is exposed. It should then be connected to the boiler flue outlet with rigid 80mm PPS or aluminium flue pipe and fittings, firmly fixed so that it cannot move. Atmos recommend that where a flue pipe enters a duct from a boiler, that the gap around the pipe in the duct is sealed, so that should there be any leakage of combustion products in the flue system, it cannot leak back into the room in which the boiler is installed. (TB008 does not require this, but Atmos recommend it).

**Condensate;** A condensate collector available from Atmos should be fitted to the flue outlet of the boiler, to divert condensate which runs down the flue pipe, directly into the condensate drain pipe. If this is not done, the large amount of condensate produced in the flue pipe may cause internal corrosion of the boiler heat exchanger and components, which will nullify the heat exchanger guarantee.

**Commissioning.** It is imperative that immediately following the modification of the flue system the GasSafe engineer should run the boiler and check that the flue joints are sound, and the air supply is unrestricted. The combustion gas must be checked with a suitable flue gas analyser, to ensure that the correct boiler combustion readings are met. This will also ensure that if there is any problem with the combustion air supply it will be detected with the combustion analyser.

Documents available;

- 1) Atmos Multi installation manual.
- 2) EN 14471 CE Declaration of conformity Chimneys – System chimneys with plastic flue liners
- 3) GasSafe TB008 V2.1
- 4) Kiwa Certificate EC Certificate of factory production control. Ref0063-CPD-61,64

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For future reference, this document should be inserted into the Atmos Multi manual that is normally left with the householder of the boiler.

This document may be revised if in future Gasafe issue further amendments to TB008 v2.1, or any other guidance in relation to the air/flue system.