



Cascade Flue Systems

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The two types of Vertical Cascade Flue Systems from Gemtex prevent multiple flue penetrations through roofs or walls by allowing boilers to share a common flue riser, making them ideal for modern apartment buildings, and properties with glass facades and listed buildings.

Features & benefits

Avoids having multiple flue penetrations through roofs or walls

Meets with Appendix 1 of the Gas Safety Legislation, which states that flue joints should be available to inspect

Up to 10 boilers on 10 levels share a common 110mm or 130mm flue riser with the Vertical Cascade Liner system

The Vertical Concentric Cascade system can accommodate 2 boilers per level and can extend beyond 10 storeys high

The Gemtex range of wall hung, condensing system and combination boilers are designed for use with our unique Cascade Flue System for apartment installations. An inbuilt non-return valve as standard on all models, allows for direct connection to the cascade system. All boilers have C42 and C43 collective flue system compliance for apartment buildings.

Boilers for use with the Cascade Flue System:

- **Cosmogas Mydens Range**

Please see our boiler brochure for further information on the various models.



The in-built boiler non-return valve, which is at the heart of the cascade systems, ensures a 100% positive closure on burner shutdown.

The liner system is made either out of polypropylene or stainless steel depending on the application. The concentric system is made of stainless steel.

Gas Safe Requirements

With the Gas Safe Register and Building Control reinforcing the rules of Appendix 1 of the Gas Safety Legislation, which states that flue joints should be available to inspect, our cascade systems ensure this can be achieved. The concentric system is located in an accessible service riser so is easy to inspect and the liner system only has one joint location per level at the branch which is accessed via a fire rated inspection door from the communal area.

Cascade Flue Systems Designs

Gemtex have two unique vertical cascade flue solutions that are enabling developers to avoid communal or district heating, giving back homeowners freedom of choice for their energy supplier and allowing the use of extremely Low NOX gas fired condensing boilers that incorporate weather compensation controls. Our combination boilers all have inbuilt weather compensation as standard and have done for many years, so they are far ahead and fully compliant with the Building Regulations being launched in April 2018 'Heat in Buildings, Boiler Plus'.

The concept behind the unique cascade flue systems supplied by Gemtex is simple, its multiple boiler installations connected to one common flue pipe. This type of installation saves multiple unsightly flue terminals spoiling the facade of a building while also allowing for less penetration through the building roof which aids in keeping the building weather tight and dramatically keeps cost down work through a variety of trades. This makes it an ideal solution for new builds and protected buildings where the façade is not allowed to be penetrated.

Our Concentric Vertical cascade system uses a stainless-steel pipe within a pipe principle, with the inner pipe being the flue discharge and gap between the inner and outer pipe being the air supply to each boiler. At each level you can have either one or two branch connections to connect to the apartment boilers. The concentric system is installed in an accessible service riser cupboard as it will have flue joints at least at every 1m interval. This system is designed, supplied, installed, commissioned and certified by Gemtex.

The concentric system is available in 4 sizes to suit the application. We will size the flue bespoke for each project based on the number of boilers, boiler kW output, height of flue and length of horizontal flue to the vertical riser. The four sizes are 110/160mm, 130/200mm, 180/250mm and 230/350mm. Example sizing is below:

Number of Boilers based on 24kW		
Maximum number of boilers per system	Diameter of the inner flue pipe in mm	Diameter of the outer air supply in mm
4	110	160
7	130	200
10	180	250
15	230	350

The Vertical cascade liner system uses a 110mm or 130mm PPs liner with a single branch and joint at each level. This sits in an air tight 200mm x 200mm fire rated dedicated builders work shaft and the shaft connects to the air supply of each boiler as the air is drawn down via the shafts chimney terminal. A fire rated inspection hatch/door at each level of the communal corridor allows for inspection of the one branch joint. This system is designed, supplied, commissioned and certified by Gemtex. For the liner system we can offer an installation service, but this system can also be installed by the installer.

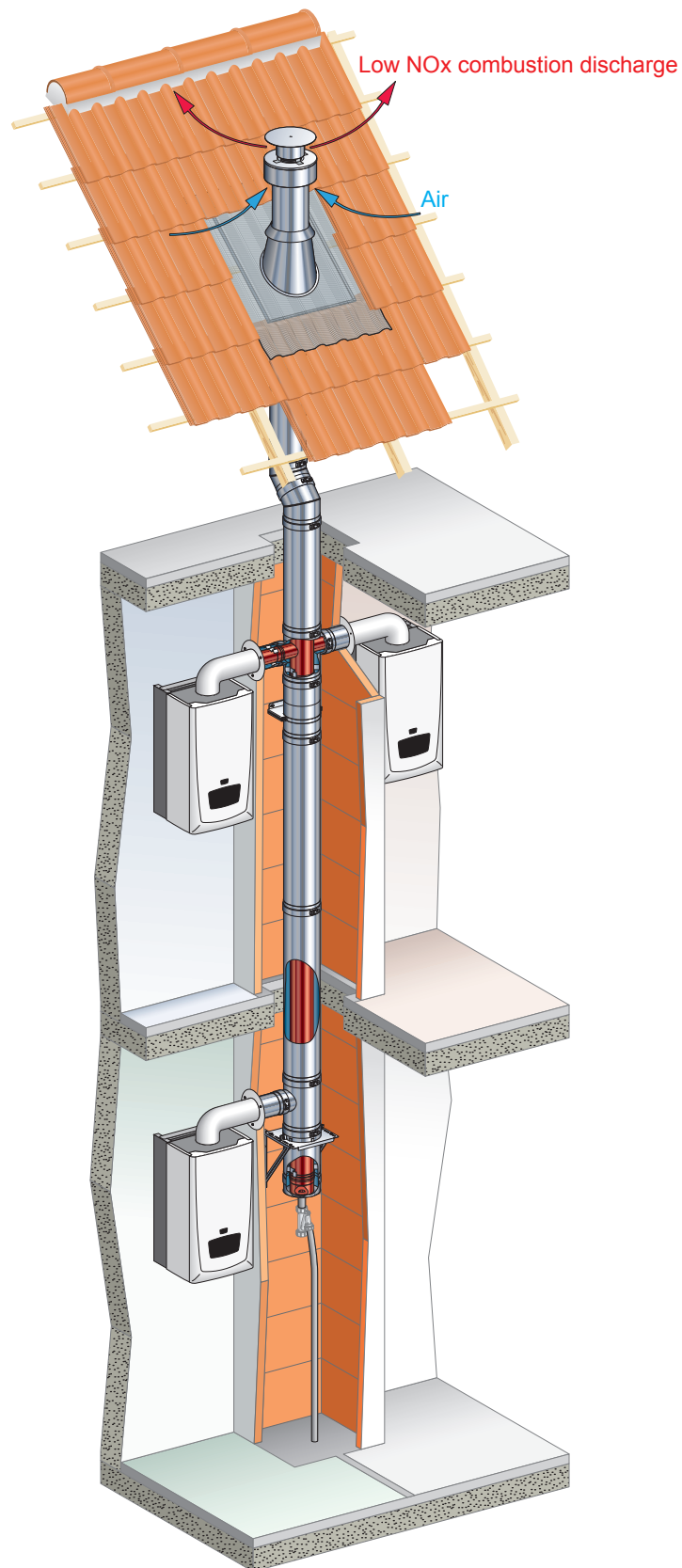
With the Gas Safe Register & Building Control reinforcing the rules of Appendix 1 of the Gas Safety Legislation, which states that flue joints should be available to inspect. Our Cascade flue liner installation in apartments is the only flue system that requires only one single inspection point at each level and saves valuable service riser space.

Both systems avoid flues in horizontal voids and unsightly ceiling inspection hatches. The flue is open for inspection in the communal corridor always making inspection and compliance for the building owner and occupier easy. Each Gemtex boiler has an in-built flue non-return valve as standard and have all been tested and approved for use on Vertical Cascade Flue systems classed as C42 or C43 for boilers in flats and apartments.

The Gemtex team between them have over 50 years of experience on working with Vertical Cascade flue systems and are available to work with their clients from planning through to project completion providing a tailored individual service that each different project requires.

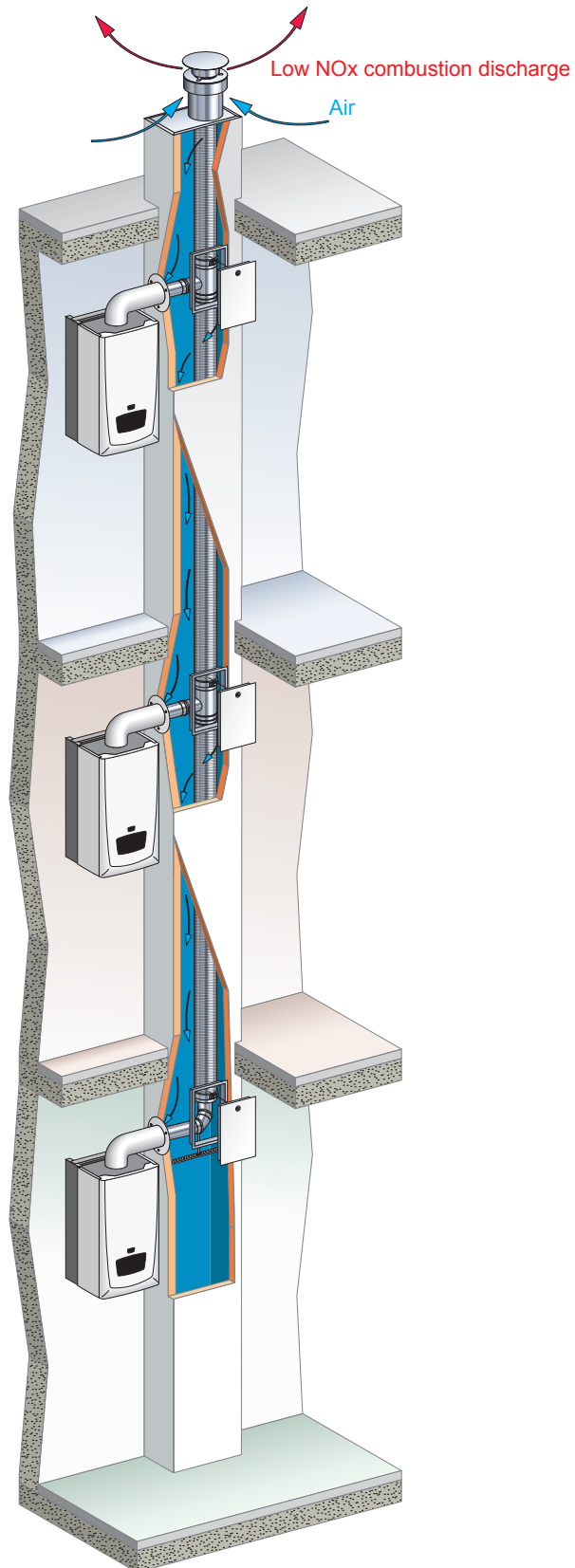
Technical details

Concentric Vertical Cascade System



Technical details

Cascade Flue System | Typical 110mm or 130mm





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Gemtex reserves the right to make changes and improvements which may necessitate alteration to the specification without prior notice. This is not a contractual document.

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