Project Profile

Grange Farm Primary School,

Consultant

- IDP Midlands

Client

- Mitie Build

Sector

- Education

Products

- MasterFlue System

Equipment

- Mikrofill Ethos 90kw

Application

- High Efficiency Condensing

Front Entrance

Mikrofill Ethos Boilers

Airtherm Engineering Limited has recently completed a flue dilution installation, working closely with the consultant and contractor at Grange Farm Primary School, Coventry. The flue system selected for the project needed to be aesthetically pleasing, discreet and blend in with the building features, so a dilution system was chosen over a traditional system, which the client was in total agreement. Airtherm provided design calculations for the project using the latest iCalc sizing package, along with compressive technical submission and Auto Cad drawings for approval prior to manufacture and ordering of the equipment.

The flue system installed comprised of a 300mm diameter fully welded dilution header, flatk Woods bifurcated epoxy coated fan, stainless steel silencers, volume control regulators and supply and discharge louvres, situated 2m from ground level to comply with Clean Air Act Memorandum.

Product Solution

Flue Dilution System

- Boilers: Mikrofill
- Model: Ethos 90kw
- Application: Flue Dilution System
- Operating mode: Wet
- Pressure: Negative / positive pressure
- Working pressure: 200 Pa (product will operate 1000pa max)
- Inner wall: 316L Stainless Steel fully welded
- Sealant : tri-lip 'o' type silicone ring
- Fuel type: Gas

Typical Flue Dilution

Considerations:

Airtherm can offer a fan dilution system to suit many appliances, from modern high efficiency condensing to gas blown and atmospheric boilers, however the principal of diluting the products of combustion is to reduce the CO^2 content at the discharge to below 1%, CO 50ppm & NOx 5ppm (BS6644 / IGEUP/10) in line with current legislation.

There are many design considerations that must be achieved, for instance, the correct sizing of the fan unit, dilution header, inlet and discharge plenum boxes, the location to adjacent buildings, openable windows, fresh air vent pipes and final discharge height. These can be found from the Clean Air Act memorandum, IGEUP/10 or BS6644, along with other certain provisions with respect to the final discharge height which is calculated based on the total kw input load of the plant.

Good Practise:

There are two methods that can be considered when designing the dilution system:

- ❑ Air is directly taken from the outside.
- ❑ Fresh air is taken from within the plant area.

We offer a design, supply and installation service for flue dilution systems, and can offer a tailored-made package to site conditions and customer requirements.

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