System Design Considerations

Note: The ‘amount of condensate’ and the “flue gas temperature gross” graphs are independent of each other.

Condensate and its disposal
During the operation of the boiler, the amount of condensate to be expected can be read from the above diagram.

The values given are approximate amounts occurring under practical conditions. Not included in the diagram is the amount of condensate occurring in the vent pipe and chimney system. The condensate from the chimney system can be collected together with the condensate from the heating boiler and be disposed of into a floor drain. The condensate will be between 3 and 4 on the pH scale. If local building requirements demand neutralizing the condensate before disposal, contact Viessmann Manufacturing Company Inc. for a correctly sized neutralization tank. The treated condensate will show pH values of between 6.5 and 9 and can then be disposed of into the waste water system.

Design notes regarding draining condensate
The condensate drain to the sewer connection must be able to be inspected.
Route it with a gradient and equip the pipe with a P-trap; also provide suitable facilities for taking samples.
The bottom drain should be located below the anti-flooding level of the flue gas collector box.

Condensate drains must only be made from corrosion resistant materials (e.g. fibre reinforced hoses). Never use any galvanized materials or those containing copper or black iron for pipes, connectors, etc.
Install a P-trap in the condensate drain to prevent flue gases from escaping.

Ensure that the domestic drainage systems are made from materials which are resistant to acidic condensate such as:
- Stoneware pipes
- Hard PVC pipes
- PVC pipes
- PE-HD pipes
- PP(s) pipes
- ABS/ASA pipes
- Stainless steel pipes
- Borosilicate pipes

Venting options
PP(s) (Polypropylene) flue gas/fresh air system for room air independent operation (sealed combustion), and PP(s) flue gas for room air dependent operation are tested to ANSI Z21.13 - CSA 4.9 - 2000 standards and are certified together with the Vitocrossal 200 boiler as a constructional unit.

The Vitocrossal 200 boiler may also be vented using an special stainless steel, single-wall, (UL listed for category IV).

The boiler may be vented horizontally through the side wall or vertically through the roof.

For a more detailed description of the direct vent and single-wall vent system, please refer to the Vitocrossal 200 Installation Instructions venting section.

Use ULC S-636 / UL 1738 certified for category IV boilers. The following vent system suppliers may be contacted for assistance in designing the appropriate PP(s) venting system for Vitocrossal 200 CM2 boilers.

M&G / Duravent
Tel. 800-835-4429
Tel. 518-649-9700
Fax: 518-463-5271
Email: sales@duravent.com
Web: www.duravent.com

Centrotherm InnoFlue
Eco Systems. L.L.C.
Tel. (877) 434-3432
Fax. (518) 618-3166
Email: info@centrotherm.us.com
Web: www.centrotherm.us.com