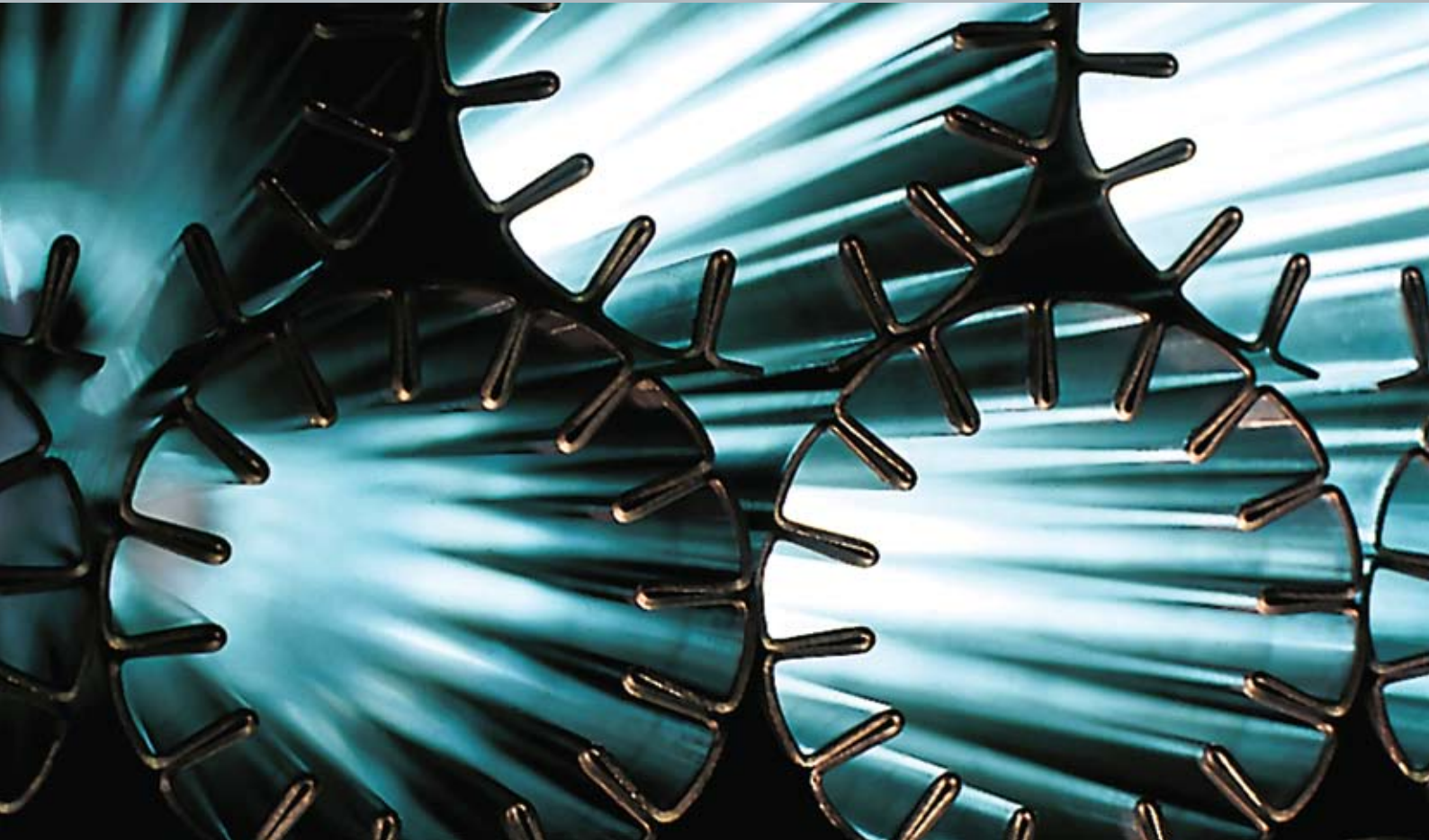


Commercial heating with oil and gas



VIESSMANN

Futureproof and efficient heating technology for all commercial requirements

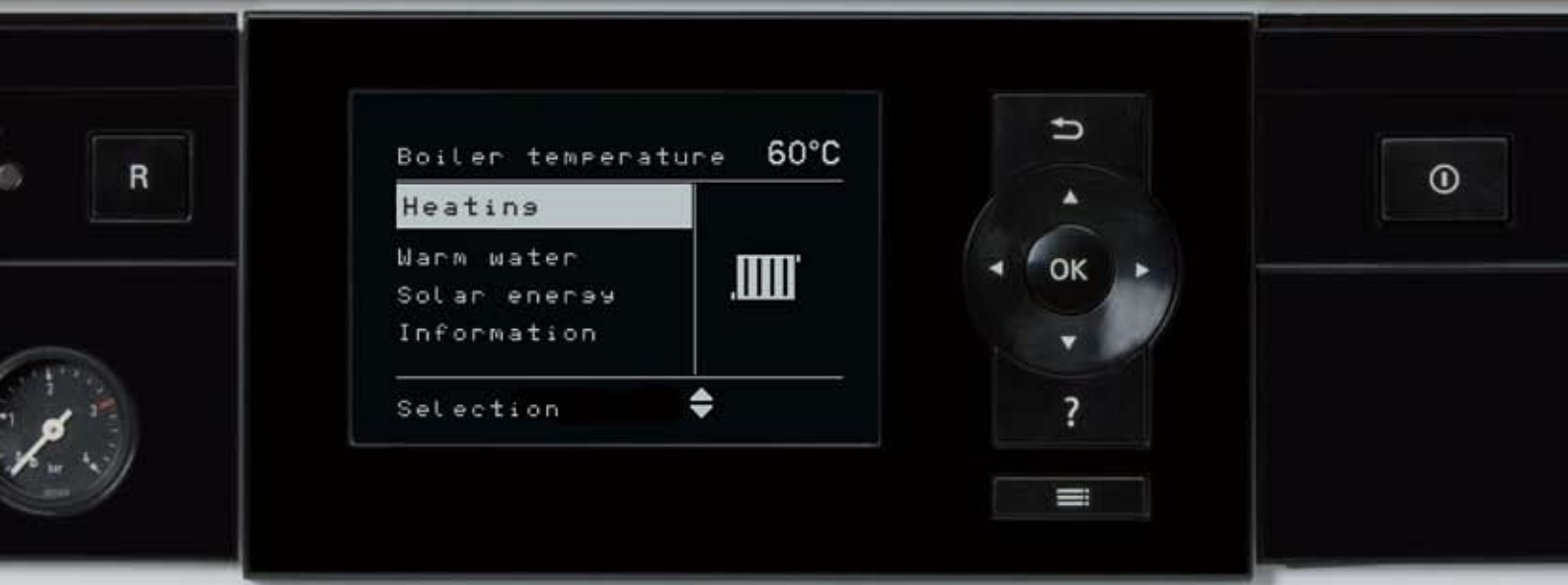
In Western industrial nations, heat generation for residential and commercial buildings account for the largest proportion of energy consumption - at the same time this sector offers the greatest savings potential.

Advanced and energy efficient heating systems from Viessmann are in use around the world, not only in many private households, but also in numerous commercial projects. There, they make an important contribution to the sustainable protection of finite energy reserves.

Advanced heating technology has certainly been put to the test in these projects, which involved working with historical buildings, impressive industrial complexes and large scale industrial and commercial buildings. However, Viessmann's innovative solutions always successfully rose to the challenge.

The comprehensive range of medium and industrial/commercial boilers not only includes Viessmann products, but also heat generators and air conditioning units produced by the extended branches of the Viessmann Group, that is Köb, Mawera, KWT, ESS, HKB, Carbotech, BIOFerm and Schmack. Strong brands that meet all requirements made of powerful and reliable heating technology in the sector using sustainable fuels.

VIESMANN



About this brochure

The Viessmann oil and gas boiler range will fulfil your every demand for an efficient and economical heating system. This brochure will tell you about our current boilers, and contains plenty of other facts about accessories and service.



Saving energy and protecting the climate

from page 6

Find out why it is worth modernising your heating system now. You can make an active contribution to protecting the climate and use less fossil fuel.



Gas condensing technology

from page 10

Gas condensing boilers from the Vitodens and Vitocrossal range offer the best energy utilisation with economical consumption. This offers you maximum savings!



Oil or gas condensing boiler

from page 24

Highly efficient and futureproof



Oil or gas low and ultra-low temperature technology

from page 28

Vitoplex and Vitorond are the most attractively-priced classics among the oil or gas fired boilers. Available in many output sizes for every heating and DHW demand.



Large hot water boilers

from page 52

Vitomax large steel boilers are designed and manufactured to order in accordance with customer specific requirements.



Control units and DHW cylinders

from page 54

Viessmann system technology includes all the elements of a reliable heating system. From the Vitotronic control unit and Vitocell DHW cylinders, to high-grade solar technology for cost-effective central heating backup, or photovoltaic modules for generating power.



Saving energy and protecting the climate

Viessmann is aware of its responsibility for the sustained protection of the environment. Its company philosophy and products are oriented towards this goal.



"Nothing is so good that it can not be improved." This guideline is anchored in our company principles. In our industry, we can rightfully claim to be the leader in quality and technology, and as such, we aim to keep setting new standards.

Of course, this applies in particular to our product range, which is consistently geared towards significantly lowering the consumption of fossil fuels, and gradually replacing them with renewable sources of energy.

At around 40%, the heating market actually accounts for the largest proportion of energy consumption. The rest is shared by goods transport, personal transport and power, with 20% each. These are values that can also be applied, to some extent, to other industrial countries. Ever-rising energy costs mean the order of the day is to reduce the consumption of fossil fuels as quickly as possible.

Condensing technology offers the greatest energy efficiency

Taking the overall investment and current energy prices into consideration, condensing technology is the most economical alternative. Viessmann gas condensing boilers convert up to 98% of the natural gas used into heat. At the same time, condensing technology is futureproof, as biofuels such as bio-natural gas can already be mixed with conventional fuels.

This is why you should invest today in advanced condensing technology. The savings you can make are considerable. Make an effective contribution towards the sustained protection of the climate by preventing unnecessary CO₂ emissions.

Viessmann has the right solution for you, too!

Viessmann offers you energy efficient heating systems for oil, gas, solar, biomass and natural heat. The pictograms will help to guide you.

What you need to know

Good reasons for modernising your heating system and using efficient gas condensing technology.

In the United Kingdom alone, there are still around 15 million households and countless industrial and public buildings using outdated heating systems. Their owners or operators are often completely unaware of how much money they are wasting unnecessarily on energy, which is pointlessly consumed and goes out of the chimney as unused heat. Furthermore, these old systems have an impact on the climate through unnecessary CO₂ emissions and contribute to global warming.

By promptly replacing these systems with highly efficient condensing boilers in combination with solar technology, energy usage can be cut down by up to 35%. This would work out to be 15% of the total UK energy consumption, with annual CO₂ emissions being reduced by 92 million tonnes at the same time.

How to save with Vitocrossal condensing technology

With condensing technology, not only is the heat from the combustion of gas utilised, but also the heat that would escape unused up the chimney with conventional heating technology.

With this technology, condensing boilers achieve standard efficiencies of up to 98%, and so are particularly energy-efficient. This function not only saves valuable energy, but also protects the environment through significantly reduced CO₂ emissions.

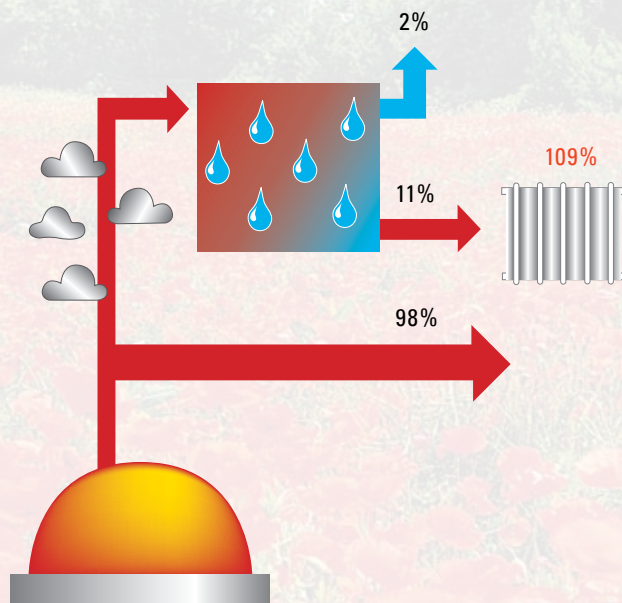
Economical heating: Vitoplex low temperature boiler with Therm-Control

Low temperature boilers for larger residential buildings, industry and commercial buildings, schools and offices save fuel and consequently protect the environment. However, boilers must be suitable for such operations, otherwise condensation will lead to corrosion. This applies particularly on start-up. When the heating water temperature in the system is low, a lowering of the hot gases below the dew point on the boiler surfaces must be prevented. With the Vitoplex 200 up to 560 kW and the Vitoplex 300, this is regulated by the Therm-Control start-up system. The Therm-Control even makes the shunt pump or a constant return temperature raising facility unnecessary, simplifying the hydraulic boiler connection and saving costs.

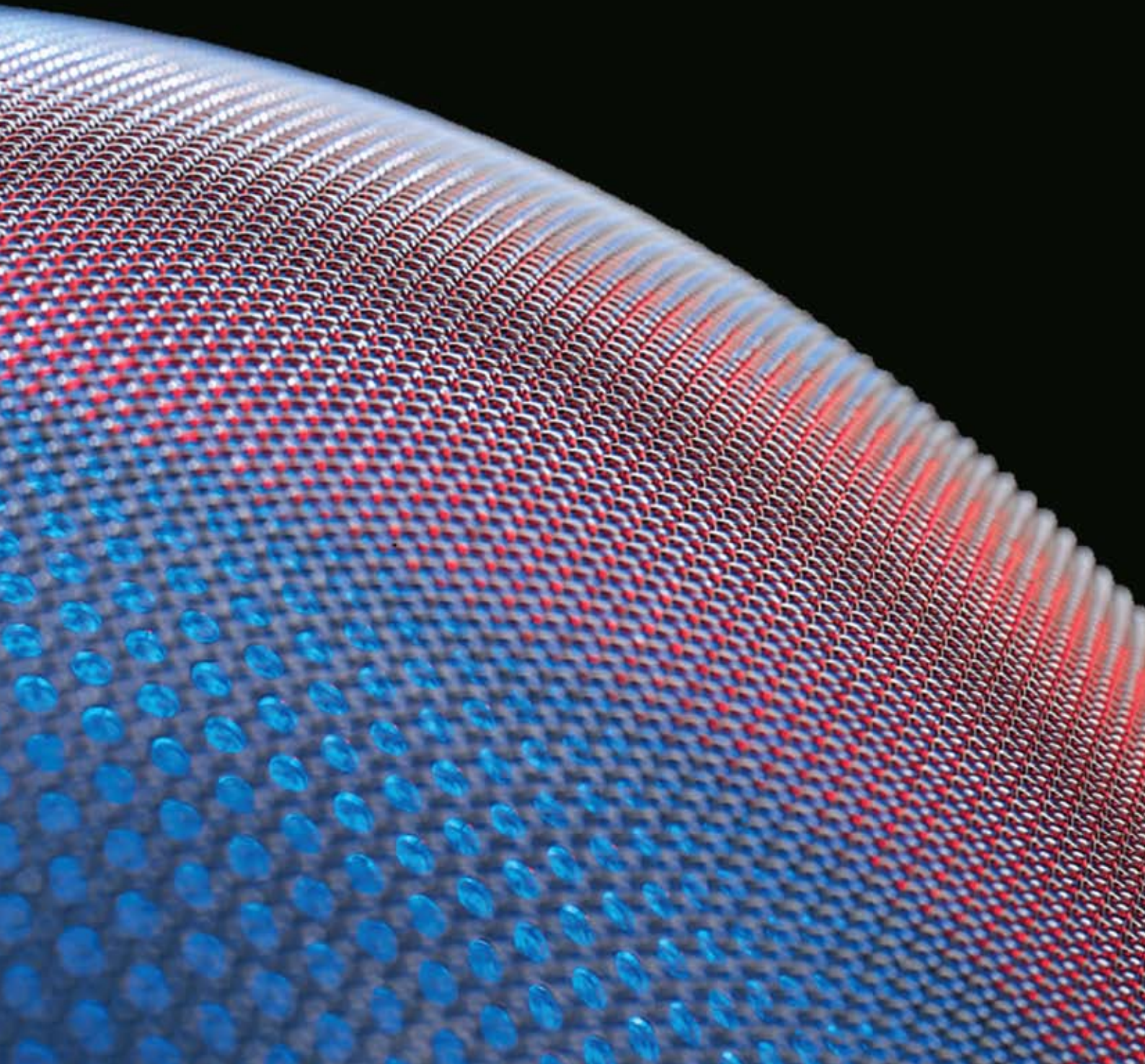


Vitocrossal 200 gas condensing boiler.

More effective, more economical and lower emissions – modern gas condensing technology from Viessmann



Boilers which exploit condensing technology achieve standard efficiencies of up to 109% by gaining additional energy from flue gases (natural gas)



VITOCROSSAL VITODENS

You could spend a long time thinking about how futureproof your heating system is, or you could just switch it over to the future.

With Viessmann gas condensing technology, the heating technology of tomorrow is already available today. It is one of the most economical and clean ways to generate heat. Through the condensation of the hot gases, latent heat is recovered which is lost by conventional boilers.

Always the right choice

By choosing a Vitodens or Vitocrossal gas condensing boiler, you'll always be making the right choice. There are plenty of reasons in its favour:

- High reliability
- Long service life
- Convenient central and DHW heating
- Cost savings through economical energy consumption
- Perfectly matching combination with other technologies



Vitocrossal 300

Gas condensing boiler

Output range: 27 to 1 400 kW.

Page 12



Vitocrossal 200

Gas condensing boiler.

Output range: 87 to 628 kW.

Page 16



Vitodens 200-W

Wall mounted gas condensing boiler

System boiler: 45 to 150 kW

In cascades up to 900 kW.

Page 20



VITOCROSSAL 300

Top technology for top quality – this floorstanding gas condensing boiler will meet all your needs

Inox-Crossal heating surface and MatriX burner

The Vitocrossal 300 represents proven condensing technology. Its smooth stainless steel Inox-Crossal heating surface offers the ideal solution for utilising condensing technology. The innovative surface allows condensate created by this process to simply run off, resulting in a longer service life whilst reducing maintenance costs. The combination of the Inox-Crossal heat exchanger surface with the patented MatriX gas burner is another milestone in Viessmann heating technology. It saves heating costs and guarantees minimum emissions without compromise.

MatriX gas burner

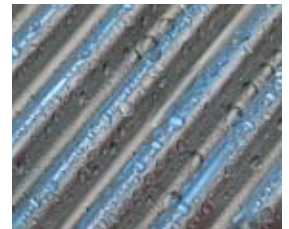
The MatriX gas burner ensures low energy consumption and quiet operation. With a modulating range down to 30% it achieves extremely low NO_x emissions.

Particularly suitable for local heating networks, apartment buildings and commercial buildings

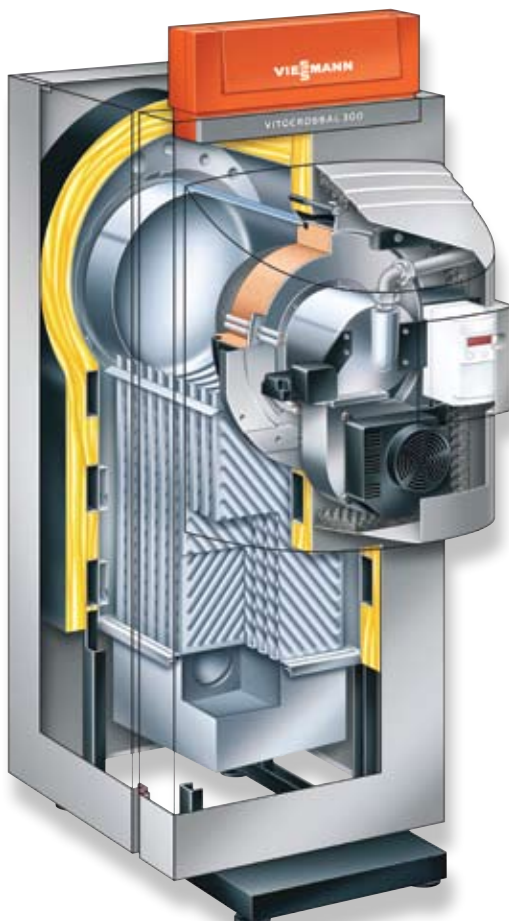
The Vitocrossal 300 range of condensing boilers from 87 to 1 400 kW offers the right solution for every demand – for apartment buildings as well as local heating networks and public or commercial buildings.

Intensive utilisation of the heating gases

With its structure comprising of vertically arranged heating surfaces, the Vitocrossal 300 utilises the condensation energy in its heating gases particularly intensively. This results in efficiencies of up to 98%.



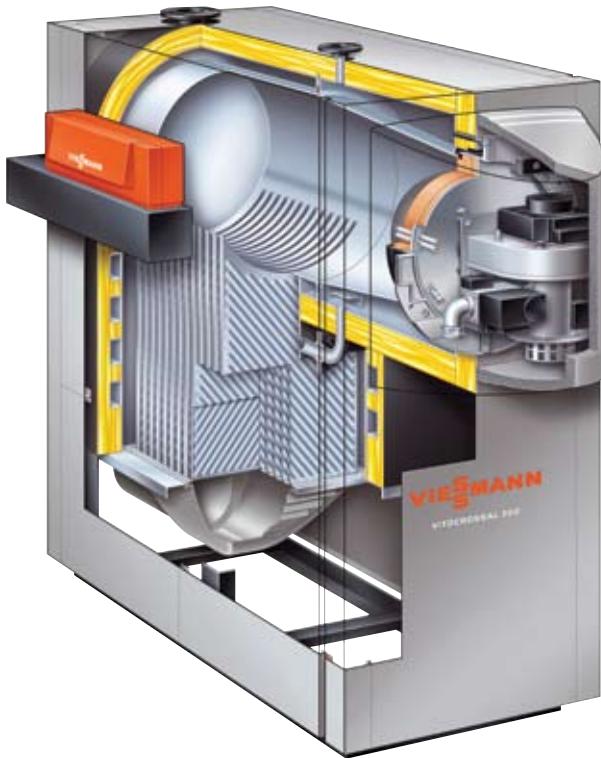
Inox-Crossal heating surface



Vitocrossal 300 (Type CM3)

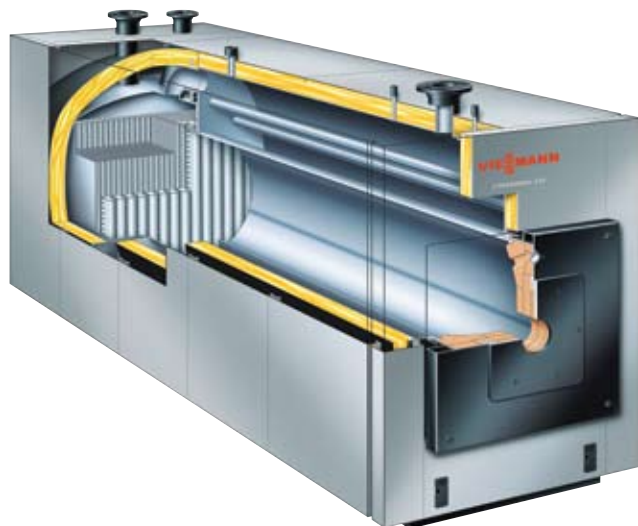
- Output range: 87 to 142 kW
- Standard efficiencies up to 98% (gross)
- Max operating pressure 4 bar
- With MatriX radiant burner for particularly quiet and environmentally responsible operation with a wide modulation range (30 to 100%)
- Vertically arranged Inox-Crossal heating surfaces
 - for high operational reliability and long service life,
 - any condensate can drain off freely,
 - this prevents condensation through re-evaporation of condensate
 - improved self-cleaning effect through stainless steel surface
- Compact boiler body with large water content and Inox-Crossal heat exchanger surfaces in stainless steel for efficient utilisation of condensing technology
- Second return connector for low return temperature resulting in an especially intensive utilisation of condensing technology
- A powerful fan pressure enables long flue pipe lengths suitable for room sealed and open flue applications
- Also suitable for use in multi-boiler systems

Gas condensing technology Vitocrossal 300
27 to 1 400 kW



Vitocrossal 300 (Type CT3B)

- Output range: 187 to 635 kW
- Permissible operating pressure up to 314 kW: 4 bar, 408 to 635 kW: 5.5 bar
- With MatriX radiant burner up to 314 kW for particularly quiet and extremely low NO_x emissions modulating down to 30%
- Clean combustion through low combustion chamber loading
- Sectional model for easy handling (from 187 kW)
- Two return connectors for water connections for optimum condensing use

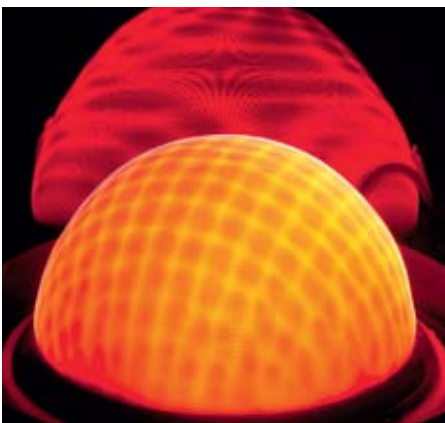


Vitocrossal 300 (Type CR3B)

- Output range: 787 to 1 400 kW
- Permissible operating pressure 6 bar
- Clean combustion through low combustion chamber loading
- Split version for easy handling
- Two return connectors for water connections for optimum condensing use



The Vitocrossal 300 (Type CR3B)



Another milestone in heating technology: the MatriX gas burner for extremely clean combustion.

Take advantage of these benefits

- Compact gas condensing boiler with large water content, 87 to 1 400 kW
- Standard efficiencies up to 98% (H_s)/109% (H_i)
- Modulating MatriX gas burner for particularly quiet and environmentally responsible operation
- Inox-Crossal stainless steel heat exchanger surfaces for efficient utilisation of condensing technology
- Suitable for use in multi-boiler systems
- A powerful fan pressure enables long flue pipe lengths suitable for room sealed and open flue applications



VITOCROSSAL 200

Stainless steel condensing technology at an attractive price

With the Vitocrossal 200, Viessmann offers high-grade condensing technology from 87 to 628 kW with an outstanding price/performance ratio. The Vitocrossal 200 comprises the components proven in Viessmann condensing technology: The innovative Inox-Crossal heating surface and another milestone of Viessmann heating technology, the MatriX gas burner.

MatriX gas burner

The MatriX burner is available across the entire output range up to 628 kW with a modulation range from 33 to 100%. This ensures a quiet operation and extremely low NO_x emissions, even in this output range. The Vitocrossal 200 is suitable for open and balanced flue operation across its entire output spectrum.

Inox-Crossal heat exchanger

The Vitocrossal 200 with its innovative stainless steel Inox-Crossal heating surface offers the ideal solution for utilising condensing technology. The smooth surface allows condensate created by this process to simply run off, resulting in a longer service life whilst reducing maintenance costs.

The combination of the Inox-Crossal heat exchanger surface with the patented MatriX gas burner is another milestone in Viessmann heating technology. It saves heating costs and guarantees minimum emissions without compromise.

The highly effective heat transfer and the high condensation rate enable standard efficiencies up to 98% (H_s)/109% (H_i).

Twin-boiler systems up to 1 256 kW

Two Vitocrossal 200 boilers can also be operated as a cascade with the same provisions for control and the flue gas side. For twin-boiler systems, Viessmann offers specifically designed flue gas headers made from stainless steel as well as the hydraulic system connections.



MatriX cylinder burner

Gas condensing technology Vitocrossal 200
87 to 628 kW
(cascade up to 1 256 kW)



Vitocrossal 200 (Type CM2)

- Output range: 87 to 311 kW
- Condensing unit with MatriX radiant burner, 80 to 311 kW, as twin-boiler system up to 622 kW
- Modulation down to 33%
- Standard efficiencies: 97% (H_s)/108% (H_i)
- Permissible operating temperature up to 100°C
- Optional open flue or balanced flue operation
- All water connections can be fitted from above



Vitocrossal 200 (Type CM2)

- Output range: 135 to 628 kW, as two-boiler system up to 1 256 kW
- Modulation down to 33%
- NO_x credit rating 4 (<39 mg/kWh) according to BREEAM
- Standard efficiencies: 98% (H_s)/109% (H_i)
- Permissible operating pressure 5.5 bar
- Easy hydraulic connections; therefore no minimum heating water flow rate required
- Cascade with pre-fitted accessories on the hydraulic and flue gas side



Vitocrossal 200 (Type CM2)

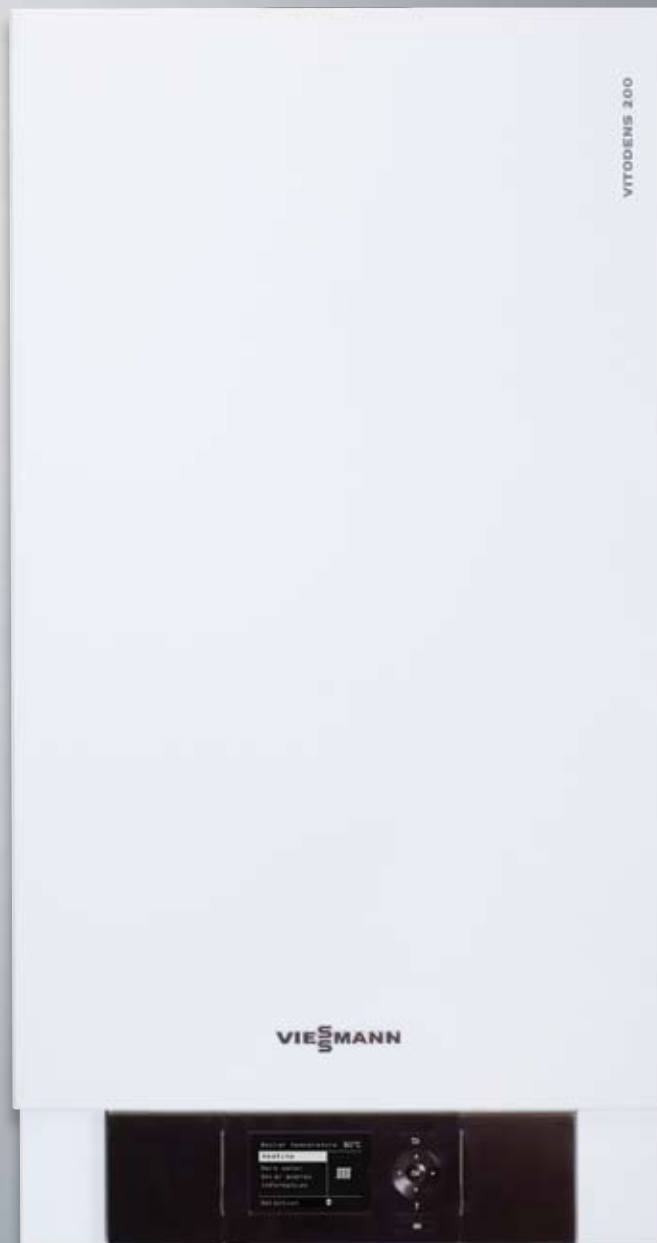
Take advantage of these benefits

- Output range: 87 to 311 kW
- Standard efficiencies: up to 97% (gross)
- Permissible operating pressure 4 bar
- MatriX radiant burner for particularly quiet and environmentally friendly operation with a modulation range of 33 to 100%
- The stainless steel Inox-Crossal heating surface ensures high operational reliability and a long service life
- Self-cleaning effect through smooth stainless steel surface
- Clean combustion through low combustion chamber loading and straight-through design
- Optional open flue or balanced flue operation
- All water connections can be fitted from above

Vitocrossal 200 (Type CM2)

Take advantage of these benefits

- Output range: 135 to 628 kW
- Standard efficiencies: 98% (gross)/109% (net)
- NO_x credit rating 4 (<39 mg/kWh) according to BREEAM
- Permissible operating pressure 5.5 bar
- MatriX cylinder burner for particularly quiet and environmentally friendly operation with a modulating range of 33 to 100%
- Inox-Crossal heating surface for highly effective heat transfer and high condensation rate
- Condensing unit with MatriX cylinder burner as two-boiler system up to 1 256 kW
- The stainless steel, corrosion-resistant Inox-Crossal heating surface ensures high operational reliability and long service life
- Self-cleaning effect through smooth stainless steel surface
- Optional open flue or balanced flue operation
- Cascade with pre-fitted accessories on the hydraulic and flue gas side



10 Year Warranty

on all stainless steel heat exchangers for
gas condensing boilers up to 150 kW

VITODENS 200-W

The Vitodens 200-W is a wall hung gas condensing boiler for commercial applications. 45, 60, 80, 100, 125, 150 kW models available.

Weather compensation controls

The Vitodens 200-W is available with optional weather compensation controls, the Vitotronic 200. Constant, small adjustments in the boiler flow temperature, in response to changes in the outside temperature, enable the boiler to run cost effectively and efficiently at lower temperatures, condensing for longer. This results in additional fuel savings of up to 15%.

How does it work?

A small temperature sensor is located on the outside of the building, on a north facing wall. This is wired to the internal controls of the boiler and information about the outside temperature is sent to the boiler every few seconds.

When the temperature changes outside the boiler responds and starts to increase or decrease the flow temperature to the radiator to compensate. This pro-active mechanism means that people inside the building won't even notice that the temperature outside has changed.

For example, when the outside temperature drops at night, more heat is lost through the walls of the building. Because the outdoor sensor detects the fall as soon as it happens, the boiler is able to start working a little harder to increase the radiator temperature and keep the inside temperature stable. With a conventional system, the temperature is dependent on a room thermostat, which can only take effect after the inside of the building has become too hot or too cold.

In summary, weather compensation controls enable the boiler to respond to outside temperatures changes and quickly adjust the radiator output, to maintain a constant temperature.

The following diagram helps to demonstrate how this compares to a heating system without weather compensation – where the boiler runs very hot then very cold as it constantly 'plays catch up' to achieve the desired room temperature.

Maximising the condensing effect

Condensing boilers have dramatically increased the efficiency of home heating systems, by recovering latent heat in the flue gases. For a condensing boiler to achieve the high levels of efficiency it is capable of it needs to condense for as long as possible. An outdoor weather sensor can help the boiler operate at lower temperatures, meaning it can condense for longer.

High output gas fired system boilers

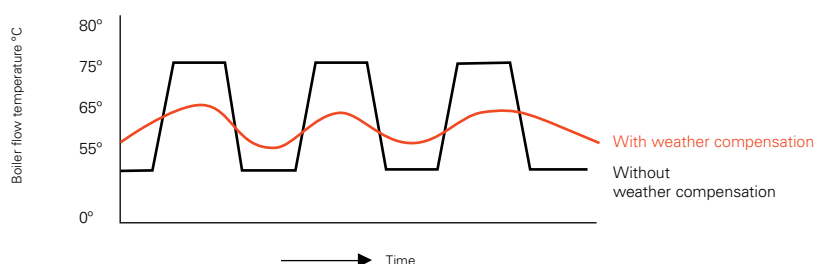
The Vitodens 200-W high specification boiler is one of the most efficient and quietest condensing boilers in this sector. It is available for commercial applications of up to 900 kW – good news if access is difficult, floor space is limited, if you prefer the reassurance of having more than one boiler running as a back-up, or if you simply want to enjoy all of the features of this great wall-hung gas condensing boiler.

Cascade options

Up to eight boilers can be cascaded in various configurations, giving a maximum output of 900 kW. Upon required output specification Viessmann can supply all the components needed for the best combination for the project. As part of our cascade solutions, the hydraulic low loss header features an integrated deaerator.

High efficiency pumps

All Vitodens 200-W units are available with high efficiency pumps, already meeting the ErP directive for A rated energy pumps.



Gas condensing technology Vitodens 200-W 45 to 150 kW (Cascade up to 900 kW)

Intelligent Lambda Pro combustion control system for optimum efficiency and performance

The Lambda Pro combustion control is designed to work efficiently irrespective of gas quality – a factor which will become increasingly important as international gas supplies become less reliable. The Lambda Pro combustion controller works alongside the burner to constantly monitor the air to gas ratio. Instead of the gas/air mix remaining fixed from commissioning, the mix is self-adjusting as required, to maintain optimum boiler efficiency in relation to the gas quantity – in a similar way to the fuel management system in a car engine. The control also replaces the traditional gas valve control and changing to LPG takes just a few seconds – with no changing of any parts.

Modulating MatriX pre-mix burner

Developed by Viessmann, the stainless steel MatriX pre-mix burner, burns with thousands of tiny flames instead of one large one, distributing heat cleanly and efficiently to the heat exchanger. With a modulation range of 1:5 the heat demand is optimised and maximum efficiency levels are achieved. The extremely low NO_x and CO emissions meet and exceed all national clean air regulations and guidelines. The stainless steel MatriX mesh ensures long term reliability.

Inox-Radial heat exchanger

As with all Viessmann wall-hung boilers, the Vitodens 200-W features Viessmann's unique stainless steel Inox-Radial heat exchanger, designed for long term reliability, high performance and self-cleaning. The design of the heat exchanger ensures high heat transfer through laminar hot gas flow across defined gaps. High corrosion resistance is maintained by the use of high grade stainless steel 1.4571 and thick walls. This component is so reliable that it comes with a 10 year warranty against corrosion.

Advanced controls

The Vitodens 200-W is equipped with features and functions to make installation, maintenance and servicing easy. These include in-built software for remote data communication and monitoring, additional heating circuits, a solar/heat pump interface, safety monitor sensors and automatic commissioning functions.





Take advantage of these benefits

- Gross efficiencies up to 98%
- NO_x credit rating 4 (<40 mg/kWh) according to BREEAM
- Up to 4 bar operating pressure
- 10 year warranty on the Inox-Radial stainless steel heat exchanger
- High operational reliability
- Modulating pre-mix MatriX burner
- Lambda Pro combustion control
- Optional weather compensation
- Easy and fault-free commissioning
- Boilers up to 150 kW suitable for natural gas or LPG (no conversion kit required – simple gas valve adjustment)
- Noise emissions of less than 32dB (A) in part load
- High efficiency pump as standard
- Easy integration with renewable energy technologies
- All serviceable parts accessible from the front
- Compact dimensions for easy handling
- Hydraulic low loss header with integrated deaerator

Oil/gas condensing
boilers

Vitoradial 300-T
101 to 545 kW



VITORADIAL 300-T

Condensing technology with proven Inox-Radial heat exchanger for efficient heating operation.

Compact oil/gas condensing boiler Vitoradial 300-T

The Vitoradial 300-T oil condensing boiler is extremely compact and is supplied as a Unit with a downstream flue gas/water heat exchanger and the new Vitoflame 100 pressure-jet burner.

High efficiency with two-stage heat generation

The Vitoradial 300-T condensing boiler is an innovative combination of the Vitoplex 300 low temperature boiler with an Inox-Radial heat exchanger directly attached to the boiler for utilising condensing technology.

The proven multi-layered convection heating surfaces combined with the corrosion-resistant Inox-Radial heat exchanger, fitted downstream of the boiler, enable highly efficient two-stage heat generation and recovery. The Vitoradial 300-T is suitable for operation with all commercially available EL fuel oils or natural gas.

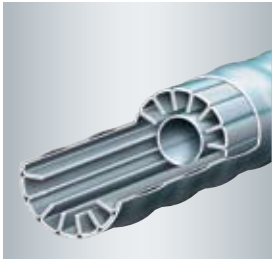


Vitoradial 300-T

Compact design for easy handling and low build height – an important pre-requisite for modernisation projects.

The Inox-Radial guarantees the highest efficiency and a long service life.





Multi-layered convection
heating surface

Compact yet powerful

The compact design with low build height makes the Vitoradial 300-T an ideal choice when modernising heating centres. It is supplied as a unit with the downstream flue gas/water heat exchanger and the Vitoflame 100 pressure-jet burner.

Triplex pipes for 2.5-times larger heating surface

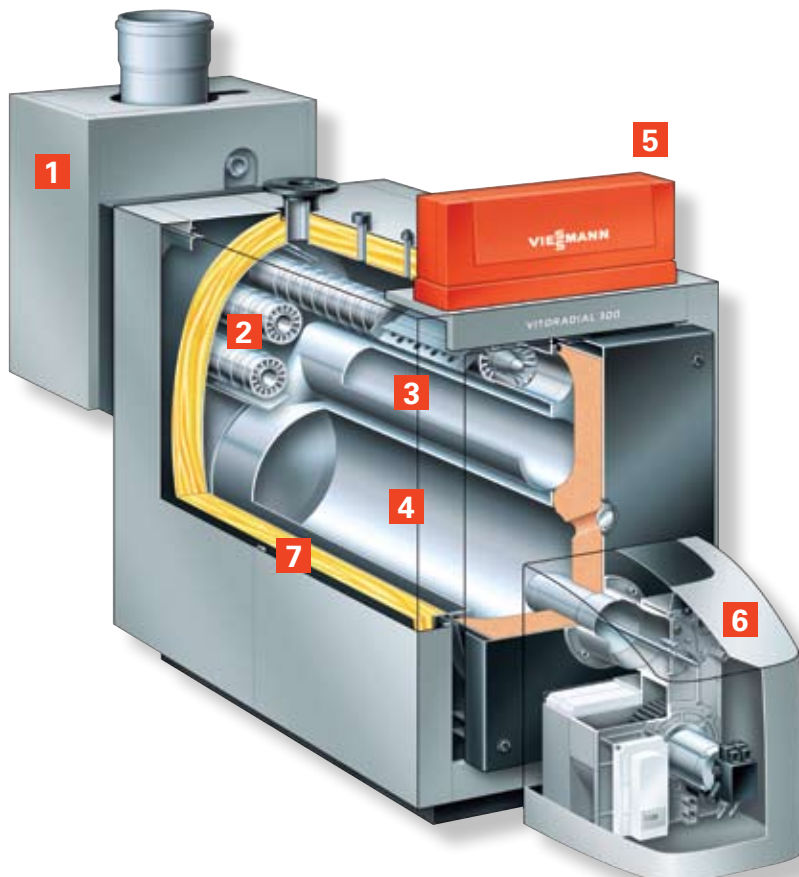
The multi-layered convection heating surfaces of the Vitoradial 300-T are comprised of telescopically arranged steel pipes pressed into each other for ideal heat transfer. The internal tube with its folded linear ribs provides a heating surface 2.5-times larger than that of smooth pipes. The heat throughput is metered by the different intervals between the press points so that the back area of the triplex tubes, through which slightly less hot combustion gases circulate, transfers less heat to the boiler water. This way, the surface temperature remains above the dew point, the formation of condensate is counteracted and corrosion damage is prevented.

Utilising condensing technology with the Inox-Radial heat exchanger

The downstream Inox-Radial heat exchanger makes it feasible to utilise highly efficient condensing technology, even with medium-sized boiler system, such as the Vitoradial 300-T. The seasonal efficiency [to DIN] is raised by 8 % to 97 % (Hs).

This principle ensures that combustion and condensation occur in physically separate locations, so the combustion gases condense in a location which is free of deposits. In practice, this means standard service intervals for cleaning the combustion chamber and low maintenance costs.

The new Vitoradial 300-T is available up to 545 kW output. The stainless steel Inox-Radial heat exchanger is highly efficient. This prevents the danger of corrosion through acidic condensate.



Vitoradial 300-T

- 1 Inox-Radial heat exchanger
- 2 Multi-layered convection heating surface
- 3 Second hot gas flue
- 4 Combustion chamber (first pass)
- 5 Vitotronic control unit
- 6 Vitoflame 100 pressure jet oil burner
- 7 Highly effective thermal insulation



Vitoradial 300-T, 101 to 545 kW

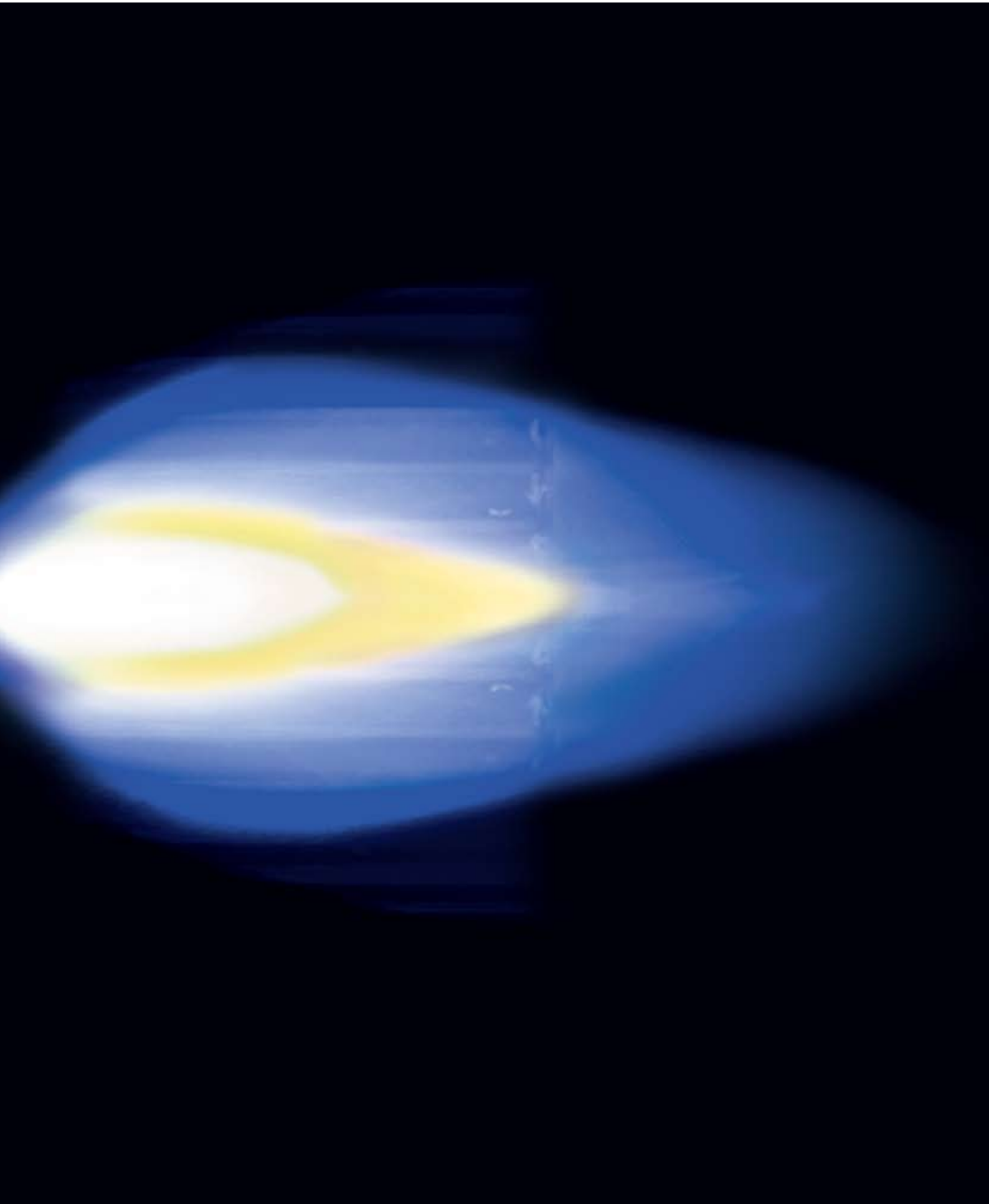


The Inox-Radial heat exchanger guarantees the highest levels of efficiency and a long service life.

Take advantage of these benefits

- Oil/gas condensing boiler, 101 to 545 kW
- Standard efficiency for operation with fuel oil: 97 % (Hs) / 103 % (Hi)
- Inox-Radial heat exchanger for condensing hot gases, matched to the compact oil/gas boiler
- Complete with heat exchanger pipework and pump, matched to the respective boiler output
- New pressure-jet oil burner, Vitoflame 100
- Long burner runtimes and fewer switching intervals, due to large water content, protect the environment
- Economical and safe operation of heating systems through the digital Vitotronic control system with communication capability
- Integral Therm-Control start-up system for easy hydraulic connection – no shunt pump or return temperature raising facility are required
- No low water indicator required, you save even more
- Compact design for easy handling and low build height – important for modernisation

For specification see page 49



VITOPLEX VITOROND VITOTRANS

Low temperature oil and gas fired boilers



Vitoplex 300, Vitoplex 200

Low temperature oil and gas fired steel boiler
Output range: 80 to 2 000 kW.

Page 26



Vitoplex 100 PV1

Low temperature oil and gas fired steel boiler
Output range: 150 to 2 000 kW.

Page 32



Vitorond 200, Vitorond 100

Low temperature oil and gas fired cast iron boiler
Output range: 40 to 1 080 kW.

Page 36



Vitotrans 300

Flue gas heat exchanger
Output range: 80 to 6 600 kW.

Page 40

Low temperature oil
and gas fired boilers

Vitoplex 300
Vitoplex 200



VITOPLEX 300

VITOPLEX 200

Vitoplex boilers are worth the investment

Excessive fuel consumption, incomplete combustion and old-fashioned emissions harm not only the environment but also the operators bank balance. Up to around 20% energy can be saved by replacing a boiler that operates at a constant temperature, with a Vitoplex boiler, whilst keeping investment costs low.

Environmentally responsible combustion

Burning fossil fuels creates NO_x that lead to the development of poisonous ozone and contribute to the creation of acid rain. Many factors influence the amounts of NO_x produced, the flame temperature being one of them. The correct routing of hot gases to cool the flame and the prevention of the hot gases dwelling in the reaction zone are therefore vital design concepts for medium commercial and industrial boilers.

Design features to reduce NO_x emissions

Vitoplex 300 and Vitoplex 200 boilers are designed as three-pass boilers. Combustion chamber size and geometry are selected, not only to reduce the flame temperature, but also to increase the hot gas dwell time in the reaction zone. Additionally, the three-pass design of Vitoplex boilers reduces emissions.

High water content – longer boiler runtimes – reduced environmental impact

Vitoplex boilers contain large quantities of water which necessitate long burner running times. This reduces boiler cycling and protects the environment.

Wide water galleries and continuous water chambers simplify the hydraulic connections

The wide water galleries, high water content and continuous water chambers of Vitoplex boilers reduce the water pressure to such an extent, that the heat transfer to the boiler water occurs by gravity-led natural circulation, making forced circulation by a boiler circulation pump unnecessary.

Economical heating: Vitoplex low temperature boiler with Therm-Control

Low temperature boilers for large residential buildings, commercial buildings, schools and offices save fuel and consequently protect the environment. However, boilers must be suitable for such operations, otherwise condensation will lead to corrosion. This applies particularly on start-up. When the heating water temperature in the system is low, a lowering of the hot gases below the dew point on the boiler surfaces must be prevented. With the Vitoplex 200 up to 560 kW and the Vitoplex 300, this is regulated by the Therm-Control start-up system. The Therm-Control even makes the shunt pump or a constant return temperature raising facility unnecessary, simplifying the hydraulic boiler connection and saving costs.

Therm-control

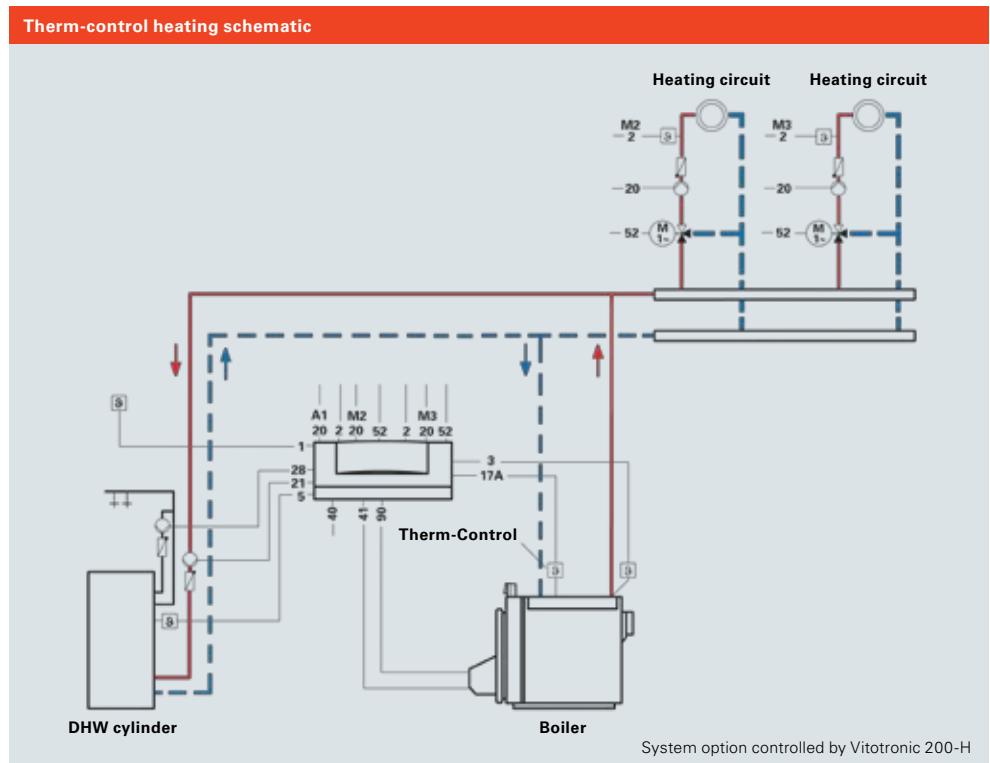
The Therm-Control start-up system replaces the shunt pump in Vitoplex systems and reduces the installation time

Utilising the Therm-Control startup system makes a shunt pump or other additional equipment, such as boiler circuit pump or constant return control, superfluous. This simplifies the hydraulic boiler connection, saving material, time and, therefore, costs.

Important: The arrangement of the temperature sensor

The arrangement of the temperature sensor for the start-up control in the area of the boiler return is crucial to operational reliability. Fitting the sensor into the flow would mean that a control system would only be activated if the boiler had been cooled down by cold return water. This action would therefore be too late, as it would happen after the creation of corrosive condensate.

Therm-control heating schematic



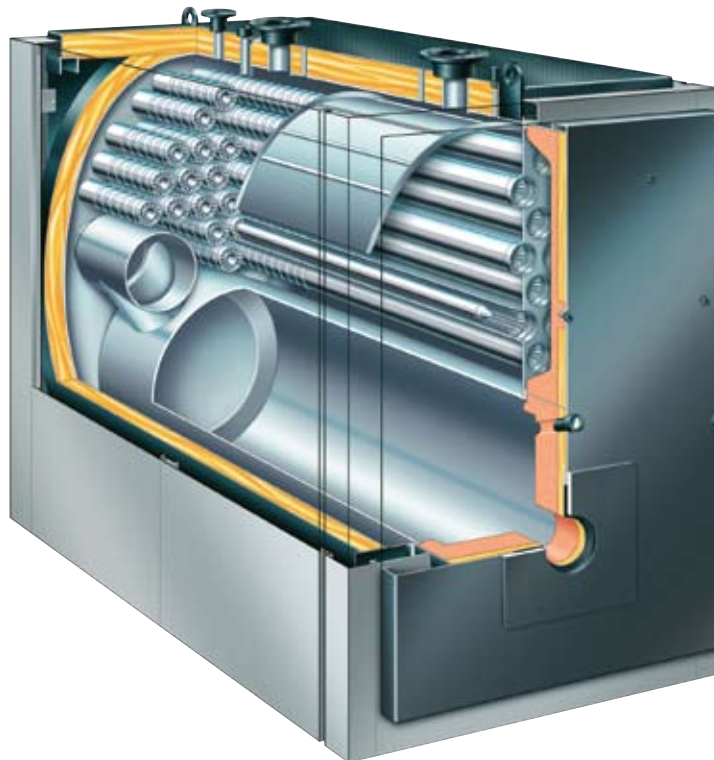
Function of the Therm-Control start-up system

The Therm-Control temperature sensor detects the return and boiler water temperatures where it is required, namely next to the return connector. This provides timely recognition of the need to start the system.

When the factory-set temperature – that is subject to boiler and fuel – is not achieved, the heating surfaces down-stream are supplied with more heat by raising the output. Simultaneously, the system flow rate is reduced by the selected heating circuit control units, butterfly valves or heating circuit pumps. The system is prevented from falling below the dew point, thereby reliably avoiding the formation of condensate. The large water content and the wide water galleries of the Vitoplex boilers ensure that the boiler water is heated evenly, preventing burner "cycling". To guarantee the correct function of the start-up system, Therm-Control ensures that during the start-up phase the system flow rate is reduced to 50%. Once the factory set temperature has been reached, the reduced heating circuits are re-enabled again.

Application of the Therm-Control start-up system

The Therm-Control start-up system is a feature of the Vitoplex 200, from 90 to 560 kW, and the Vitoplex 300, from 80 to 2 000 kW. These Vitoplex boilers are delivered with the Therm-Control temperature sensor as standard. The flow rate is reduced by the Vitotronic boiler control unit and the Vitotronic 200-H heating circuit control unit, both of which communicate via the LON.



Therm-Control start-up system in the Vitoplex 300, 80 up to 2 000 kW



Triplex tube

Vitoplex 300

The Vitoplex 300 three-pass boiler with its proven multi-layered convection heating surfaces offers a particularly economical, clean and reliable operation. The integral Therm-control start-up system makes a separate return temperature raising facility unnecessary.

Multi-layered convection heating surfaces made from triplex tubes

The multi-layered convection heating surfaces of the Vitoplex 300 is comprised of telescopically arranged steel pipes pressed into each other for ideal heat transfer. The internal tube with its swaged linear ribs provides a heating surface 2.5 times larger than that of smooth pipes. The heat throughput is metered by the different intervals between the press points so that the back area of the triplex tubes, through which slightly less hot combustion gases circulate, transfers less heat to the boiler water. This way, the surface temperature remains above the dew point, the formation of condensate is counteracted and corrosion damage is prevented.

Vitoplex 200

The compact steel boiler Vitoplex 200 is available from 90 to 1 950 kW. Over the entire output range, this three-pass boiler offers the right conditions for an environmentally responsible and clean combustion. A wide range of burners can be easily adapted to be used with this boiler.

Clean combustion

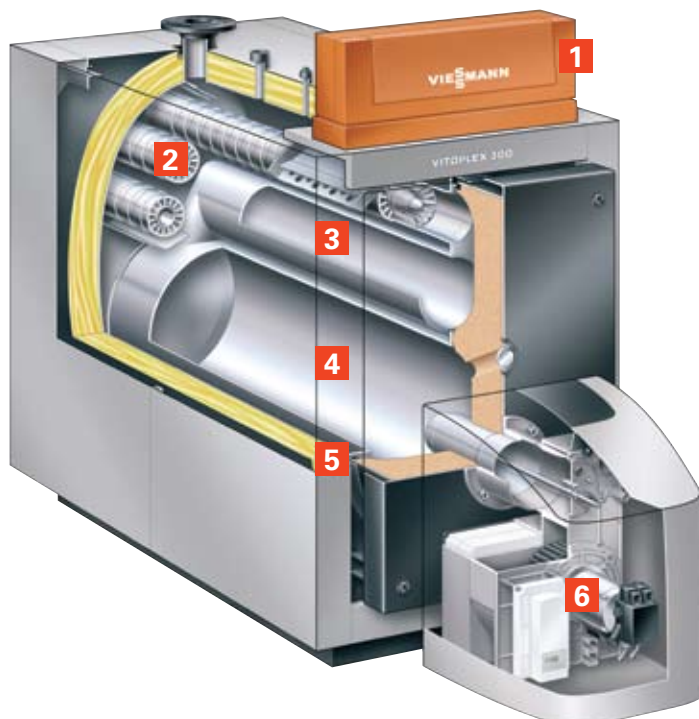
The Vitoplex 200 is a genuine three-pass boiler with low combustion chamber loading and, therefore, clean combustion with particularly low NO_x emissions.

Therm-control

No minimum heating water flow rate is required because of wide water galleries. This simplifies the hydraulic connections. Therm-Control in the output range 90 to 560 kW, even makes a return temperature raising facility superfluous, thus saving installation time and additional costs.

Compact and easy to handle

The Vitoplex 200 is easy to handle, saves space, and the walk-on boiler cover (from 700 kW) ensures easier installation and maintenance. The compact Vitoplex 200 has not only become lighter than its predecessor, but with an output up to 560 kW, it now fits through any standard doorway (80 cm). That makes handling that much easier.



Vitoplex 300

- 1 Boiler and heater circuit control
- 2 Third hot gas pass
- 3 Second hot gas pass
- 4 Combustion chamber first pass
- 5 Highly effective thermal insulation
- 6 Vitoflame 100 Unit pressure-jet oil burner



Audi Headquarters, London

Take advantage of these benefits

- Low temperature oil/gas fired boiler, 80 to 2 000 kW
- Three-pass boiler with low combustion chamber loading. Therefore, clean combustion with low NO_x emissions
- No minimum heating water flow rate required as wide water galleries and large water content provide excellent natural circulation and reliable heat transfer – simplified hydraulic connection
- Integral Therm-Control start-up system for simple water connections, therefore no shunt pump and no return temperature raising facility required
- Compact design for easy transportation and space saving installation – important for modernisation projects
- Safe and economical heating system operation through the digital Vitotronic control system with enhanced communication capability. Tailored to every need, covering all known control strategies and applications. Standardised LON for complete integration into building management systems.

The bonus with the Vitoplex 300

- Standard efficiencies for operation with fuel oil: up to 90% (H_s)/96% (H_i)
- From 620 kW with walk-on boiler cover for easier installation and maintenance
- Optimum and clean combustion through matching, fully wired oil/gas pressure-jet burners up to 2 000 kW
- Flow temperature up to 105°C

The bonus with the Vitoplex 200

- Economical and environmentally friendly through modulating boiler water temperature
- Standard efficiencies for operation with fuel oil: 88% (H_s)/94% (H_i)
- From 700 kW with walk-on boiler cover for ease of installation and maintenance



Vitoplex 300 installation in Audi Headquarters

Low temperature oil
and gas fired boilers

Vitoplex 100



VITOPLEX 100

Low temperature oil and gas fired boilers up to 2 000 kW

Proven quality

The three-pass reverse flame Vitoplex 100 boiler, with proven Viessmann quality, scores highly with reliable operation and an attractive price/performance ratio.

Compact design

The advantage of its compact design is that it is easy to handle even in rooms with low ceilings.

Wide water galleries

The wide water galleries, high water content and a continuous water chamber reduce the water pressure to such an extent that the heat transfer to the boiler water occurs by natural circulation, i.e. gravity. This makes forced circulation using a boiler circulation pump unnecessary.

Reduce burner cycling

The Vitoplex 100 contains a large water volume which necessitates long burner operating times. This reduces burner cycling and protects the environment.

State of the art technology

Viessmann employs state of the art technology in developing medium and large boilers. Stresses are analysed using the FEM method, which assists in optimising, for example, the pipe arrangements and welded joints. Consistently high quality is assured through advanced manufacturing techniques.

Low investment high performance option

The Vitoplex 100 is the low investment option without compromise on performance. An oil or gas fired two-pass reverse flame boiler with outputs ranging between 150 to 2 000 kW.

Flue gas heat exchanger

For the Vitoplex 100, it is recommended to condense the flue gas through the downstream connection of a stainless steel heat exchanger, such as the Vitotrans 300 to create a condensing boiler.



Vitoplex 100 PV1

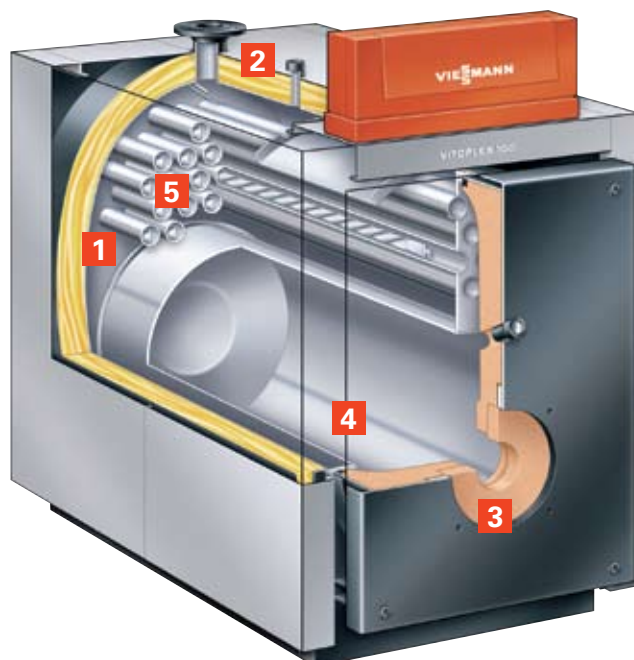
Control unit versions

For single boiler systems:

- Without Vitocontrol control panel
Vitotronic 100 (GC3)
thermostatic control unit for operation with a constant boiler water temperature.
Vitotronic 100 (GC1)
for operation with a constant boiler water temperature or for weather-compensated operation in conjunction with a control panel (see below) or an external control unit.
- With Vitocontrol control panel
Vitotronic 100 (GC1) and **LON module** (accessories) and
Vitocontrol control panel with the **Vitotronic 300-K** (type MW1S) for weather-compensated mode and mixer control for a max. of 2 heating circuits with mixer and additional Vitotronic 200-H, type HK1S or HK3S for 1 or up to 3 heating circuits with mixer
or
Control panel with external control unit (on site)

For multi boiler systems (up to 4 boilers):

- Without Vitocontrol control panel
Vitotronic 100 (GC1) and **LON module** in conjunction with the **Vitotronic 300-K** (type MW1)
for modulating boiler water temperature (one boiler is supplied with the standard controls for a multi boiler system) and
Vitotronic 100 (type GC1) and **LON module** for modulating boiler water temperature for every additional boiler in a multi-boiler system
- With Vitocontrol control panel
Vitotronic 100 (type GC1) and **LON module** (accessories) for modulating boiler water temperature for every boiler in a multi boiler system
and
Vitocontrol control panel with the **Vitotronic 300-K** (type MW1S) for multi-boiler system, weather-compensated mode and mixer control for a max. of 2 heating circuits with mixer and additional Vitotronic 200-H, type HK1S or HK3S for 1 or up to 3 heating circuits with mixer
or
Control panel with external control unit (on site)



Vitoplex 100

- 1 Wide water galleries and a large water content
- 2 Highly effective thermal insulation
- 3 Burner connection to EN 303-1
- 4 Combustion chamber
- 5 Hot gas flues



Sailing school ship Gorch Fock Stralsund



Vitoplex 100 installation on board the Gorch Fock Stralsund

Take advantage of these benefits

- Oil/gas fired three-pass reverse flame boiler from 150 kW up to 2 000 kW
- Flow temperature up to 95°C
- Thermostatic Vitotronic 100 control unit for single boiler systems
- Extendable with Vitotronic 100 control unit even as multi-boiler system
- No minimum heating water volume flow required
- Wide water galleries
- High reliability and operational safety
- Low investment

Cast iron boilers

Vitorond 200

Vitorond 100



VITOROND 200

VITOROND 100

Three-pass boiler with cast iron design

Eutectoplex heat exchanger

The boiler's Eutectoplex heat exchanger surfaces ensure high operational safety and long service life.

The cast segments of Vitorond 200 boilers are made from a special eutectic cast iron which has an homogeneous structure. This provides an even heat flow and helps to avoid stress fractures. The fine design of the graphite fins and the high level of material purity of the low phosphorous cast iron increases its elasticity. The material shape and geometry of the cast segments provide even cooling inside the cast during production. This design prevents structural tensions being built into the boiler and results in high operational safety and a long service life.

Easy delivery, easy assembly

The Vitorond 200 is delivered in individual cast segments and assembled in-situ with the compression tool provided. A permanently elastic, easy to install, glass fibre cord seals the individual cast segments. This cord seal is held in place by a matching double groove system, preventing all mechanical movements. Cast-on feet also ease the installation of the individual segments. The steel boiler base, which is part of the supply for boilers up to 270 kW and is obtainable as an option for boilers from 320 kW, levels out the concrete foundations. The Vitorond 200 can also be supplied ready-assembled with ratings up to 270 kW.



Construction of cast iron section in the Vitorond 200

Three-pass design

At the end of the combustion chamber, the hot gases flow forward through four hot gas flues arranged around the combustion chamber. They then enter the four collectors of the third hot gas flue via the front segment. At the rear, the four cooled hot gas flues are brought together inside the flue gas collector and passed, via the flue connector into the chimney. The three-pass design reduces the dwell-time of the hot gases in the high reaction temperature range, which in turn reduces the NO_x emissions for clean combustion.

Cast iron design

Due to its modular cast iron sectional design, the Vitorond 200 can be easily positioned, assembled and installed. The Eutectoplex heating surface safeguards economical consumption and high operational reliability. If required, the Vitorond 200 can be delivered as a fully assembled unit up to 270 kW.

Clean combustion

Optimum, clean combustion is achieved by the two stage Vitoflame 100 pressure-jet oil or gas burners (up to 195 kW) and the fully wired pressure jet oil/gas burners (230 kW and 270 kW).

Vitotronic control unit

The new generation of Vitotronic control units, ensures the safe and economical operation of the whole heating system. Vitotronic control units offer sufficient space for clear and tidy wiring. The Plug and Work function facilitates easy commissioning, whilst the Fastfix system speeds up the fitting and installation of the boiler covers and the control unit.



Eutectoplex coating on cast iron sections



Hessischer Hof Hotel, Frankfurt



Vitorond 200 installation in Hessischer Hof Hotel, Frankfurt

Take advantage of these benefits

- Three-pass cast iron boiler with low combustion chamber loading, giving low NO_x emissions
- Oil/gas fired boiler 40 kW to 1 080 kW
- Net efficiency 94%, gross efficiency up to 84%
- Eutectoplex coated heating surfaces for longer service life
- Pre-assembled sections up to 270 kW
- Wide water galleries

VITOTRANS 300

Flue gas heat exchangers for use of condensing technology 80 kW to 6 600 kW

The Vitotrans 300 flue gas/water heat exchanger installed downstream of the boiler ensures the utilisation of condensing technology for medium and large boiler systems. This leads to a substantial reduction in operating costs.

A Vitotrans 300 flue gas/water heat exchanger can raise standard efficiencies by up to 12% when using natural gas and by up to 7% with fuel oil.

The Vitotrans 300 is available as two versions for different output, i.e. up to 1 750 kW with the Inox-Crossal heating surfaces and 1 860 to 6 600 kW with Inox-Tubal heat exchangers.

Both flue gas/water heat exchangers are highly efficient and made from stainless steel. This avoids the risk of corrosion due to acidic condensate. The counter-current principle of boiler water and hot gases creates particularly high condensation rates and the vertical layout encourages the self-cleaning effect.



Take advantage of these benefits

- Stainless steel Inox-Crossal heating surface for highly efficient heat transfer and high condensation rate for units up to 1 750 kW
- Stainless steel Inox-Tubal heating surface for outputs 1 860 to 6 600 kW
- Standard boiler efficiencies can be raised by up to 12%
- Suitable for oil and gas installations



Vitotrans 300

Flue gas/water heat exchanger for boilers from 80 kW to 500 kW
Utilisation of condensing technology with natural gas or fuel oil

Rated output					
Vitoplex 100	kW	90 - 125	150 - 190	240 - 310	400 - 500
Vitoplex 100/300	kW	80 - 105	130 - 170	225 - 285	345 - 460
Vitorond 200	kW	-	125 - 195	230 - 270	320 - 440
Dimensions (overall)	Depth mm	648	760	837	928
	Width mm	714	746	818	912
	Height mm	1 037	1 152	1 167	1 350
Weight*	kg	125	150	188	284

* with thermal insulation



Vitotrans 300

Flue gas/water heat exchanger for boilers from 500 kW to 1 750 kW
Utilisation of condensing technology with natural gas or fuel oil

Rated output				
Vitoplex 100/300	kW	575 - 720	895 - 1 120	1 400 - 1 750
Vitorond 200	kW	500 - 700	780 - 1 080	-
Dimensions (overall)	Depth mm	900	900	900
	Width mm	800	950	1 200
	Height mm	1 152	1 167	1 350
	Vitoplex 100/300 & Vitorond 200	1 843	2 083	2 230
	Vitoplex 300 (type TZ3)	-	2 404	2 697
Weight*	kg	275	350	470

* with thermal insulation



Vitotrans 300

Flue gas/water heat exchanger for boilers from 1 860 kW to 6 600 kW
Utilisation of condensing technology with natural gas or fuel oil

Rated output								
Vitomax 200	kW	2 100	2 600	3 200	3 900	4 500	5 300	6 600
Vitomax 300	kW	1 860	2 300	2 900	3 500	4 100	4 700	5 900
Dimensions (overall)	Depth mm	1 320	1 320	1 450	1 450	1 550	1 550	1 650
	Width mm	1 170	1 170	1 310	1 310	1 390	1 390	1 570
	Height mm	2 600	2 600	2 810	2 810	3 010	3 010	3 210
Weight*	6 bar kg	690	690	920	920	1 050	1 050	1 270
	10 bar kg	740	740	970	970	1 100	1 100	1 300

* with thermal insulation

VITOMAX

Vitomax large steel boilers are designed and manufactured to order in accordance with customer and country specific requirements.

The Vitomax range comprises of low temperature boilers up to 19 500 kW with condensing options up to 6 600 kW. High temperature and pressure boilers are available up to 16 200 kW with working pressures up to 25 bar.

High pressure waste heat boilers are also available.



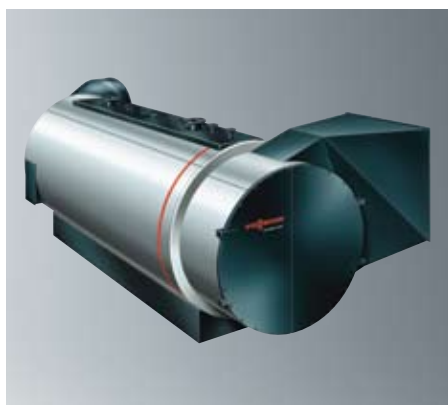
Vitomax 300 LT

- Net efficiency 96% , gross efficiency 86%
- Pressure up to 6 bar
- Outputs 1 860 kW to 5 900 kW
- Three-pass boiler with low combustion chamber load for clean combustion with low NO_x emissions
- Multi-layered convection surfaces made from Duplex pipes
- Low minimum heating return temperatures: 45°C for gas, 38°C for oil



Vitomax 200 LW

- Net efficiency 95% , gross efficiency 84%
- LW pressure 6 to 25 bar
- Outputs 2 300 kW to 20 000 kW
- Three-pass boiler with low combustion chamber load for clean combustion with low NO_x emissions
- Low radiation due to 120 mm thick composite insulation
- No minimum heating water volume flow requirement, excellent natural circulation, even without a boiler circuit pump



Vitomax 200 RW / RS

- Waste heat boilers for hot water and steam generation
- Available without additional combustion to generate hot water or saturated steam
- Available with waste heat utilisation from conventional combustion and additional waste heat utilisation
- Low radiation due to 120mm thick composite insulation



Vitomax 100 LW

- Net efficiency 95%, gross efficiency 84%
- Pressure 650 to 1 800 kW is 8 bar, 2 300 to 6 000 kW is 6 and 10 bar
- Outputs 650 kW to 6 000 kW
- Two-pass reverse flame boiler with low combustion chamber load for clean combustion with low NO_x emissions
- No minimum heating water volume flow requirement, excellent natural circulation, even without a boiler circuit pump
- Operating temperatures up to 105°C



Vitomax 200 HW

- Combustion output 520 to 18 200 kW
- Operating flow temperatures up to 200°C
- HW pressure 6 to 25 bar
- Ideal for use in district heating networks and industrial operations



Gas fired condensing boiler Vitocrossal 300 CM3

Page 12

Rated output in kW at heating water temperatures from	50/30°C	87	115	142
	80/60°C	80	105	130
Dimensions (overall)	Depth mm	1 025	1 025	1 025
	Width mm	690	690	690
	Height mm	1 867	1 867	1 867
Weight*	kg	253	258	261
Boiler water content	litres	116	113	110
Flue connection sizes	mm	125	125	125
Flow & Return conn. sizes	mm	50	50	50
Maximum safety pressure	bar	4	4	4

* with thermal insulation and MatriX radiant burner



Gas fired condensing boiler Vitocrossal 300 CT3B

Page 12

Rated output in kW at heating water temperatures from	50/30°C	187*	248*	314*	408	508	635
	80/60°C	170	225	285	370	460	575
Dimensions (overall)	Depth mm	1 636	1 714	1 795	1 871	1 949	2 105
	Width mm	1 012	988	988	1 128	1 128	1 128
	Height mm	1 959	2 009	2 032	2 290	2 290	2 290
Weight*	kg	557	613	683	890	936	1 098
Boiler water content	litres	270	296	330	490	533	570
Flue connection sizes	mm	201	201	201	251	251	251
Flow & Return conn. sizes	mm	65	65	80	100	100	100
Maximum safety pressure	bar	4	4	4	5.5	5.5	5.5

* with MatriX radiant burner



Gas fired condensing boiler Vitocrossal 300 CR3B

Page 12

Rated output in kW at heating water temperatures from	50/30°C	787	978	1 100	1 400
	80/60°C	720	895	1 006	1 280
Dimensions (overall)	Depth mm	3 021	3 221	3 338	3 688
	Width mm	1 281	1 281	1 463	1 463
	Height mm	1 676	1 676	1 676	1 676
Weight*	kg	1 553	1 653	1 980	2 185
Boiler water content	litres	1 407	1 552	1 558	1 837
Flue connection sizes	mm	300	300	350	350
Flow & Return conn. sizes	mm	125	125	125	125
Maximum safety pressure	bar	6	6	6	6

* with thermal insulation



Gas fired condensing boiler Vitocrossal 200 CM2

Page 16

Rated output in kW at heating water temperatures from	50/30°C	87	115	142	186	246	311
	80/60°C	80	105	130	170	225	285
Dimensions (overall)	Depth mm	1 760	1 760	1 760	1 790	1 790	1 790
	Width mm	815	815	815	915	915	915
	Height mm	1 350	1 350	1 350	1 450	1 450	1 450
Weight*	kg	270	280	285	330	345	360
Boiler water content	litres	229	225	221	306	292	279
Flue connection sizes	mm	150	150	150	200	200	200
Flow & Return conn. sizes	mm	50	50	50	65	65	65
Maximum safety pressure	bar	4	4	4	4	4	4

* with Matrix radiant burner



Gas fired condensing boiler Vitocrossal 200 CM2

Page 16

Rated output in kW at heating water temperatures from	50/30°C	135 - 404	168 - 503	209 - 628
	80/60°C	123 - 370	153 - 460	132 - 575
Dimensions (overall)	Depth mm	1 820	1 900	2 055
	Width mm	1 200	1 200	1 200
	Height mm	1 985	1 985	1 985
Weight*	kg	736	790	928
Boiler water content	litres	260	324	405
Flue connection sizes	mm	250	250	250
Flow & Return conn. sizes	mm	100	100	100
Maximum safety pressure	bar	5.5	5.5	5.5

* with Matrix radiant burner



Gas fired condensing boiler Vitodens 200-W

Page 20

Rated output	kW	45	60	80	100	125	150
Gross efficiency		98%	98%	98%	98%	98%	98%
Dimensions (overall)	Depth mm	360	360	360	360	690	690
	Width mm	450	450	450	450	600	600
	Height mm	850	850	850	850	900	900
Weight	kg	45	47	47	47	130	130



Oil or gas condensing boiler Vitoradial 300-T VR3

Page 24

Rated output at 50/30 °C	kW	101	129	157	201	263	335	425	545
Rated output at 80/60 °C	kW	94	120	146	188	245	313	407	522
Dimensions (overall)	Depth mm	2 145	2 345	2 335	2 680	2 900	2 900	2 475	2 620
	Width mm	755	755	825	825	905	905	1 040	1 040
	Height mm	1 315	1 315	1 350	1 350	1 460	1 460	1 690	1 690
Weight*	kg	510	545	610	680	870	970	1 190	1 305
Boiler water content	l	185	225	265	310	490	450	600	650

* with thermal insulation burner and boiler control unit

Specification



LTHW steel boilers Vitoplex 300

Page 26

Rated output	kW	80	105	130	170	225	285	345	405	460
Dimensions (overall)	Depth mm	1 285	1 430	1 485	1 645	1 680	1 815	1 880	2 080	2 080
	Width mm	780	780	870	870	950	950	1 025	1 025	1 025
	Height mm	1 360	1 360	1 490	1 490	1 555	1 555	1 705	1 705	1 705
Weight	kg	418	482	588	696	875	959	1 161	1 389	1 419
Boiler water content	litres	157	194	265	317	360	445	553	632	616
Flue connection sizes	mm	180	180	200	200	200	200	250	250	250
Flow & Return conn. sizes	mm	65	65	65	65	80	80	80	100	100
Maximum safety pressure	bar	4	4	4	4	4	4	4	4	4



LTHW steel boilers Vitoplex 300

Page 26

Rated output	kW	620	780	1 000	1 250	1 600	2 000
Dimensions (overall)	Depth mm	2 320	2 320	2 570	2 570	3 220	3 220
	Width mm	1 460	1 460	1 555	1 555	1 660	1 660
	Height mm	1 690	1 690	1 920	1 920	2 140	2 140
Weight	kg	1 800	1 900	2 645	2 815	3 780	4 080
Boiler water content	litres	985	900	1 510	1 440	2 475	2 315
Flue connection sizes	mm	300	300	350	350	400	400
Flow & Return conn. sizes	mm	100	100	125	125	150	150
Maximum safety pressure	bar	6	6	6	6	6	6



LTHW steel boilers Vitoplex 200 SX

Page 26

Rated output	kW	90	120	150	200	270	350	440	560
Dimensions (overall)	Depth mm	1 310	1 510	1 495	1 690	1 730	1 930	1 950	2 095
	Width mm	755	755	825	825	905	905	1 040	1 040
	Height mm	1 315	1 315	1 350	1 350	1 460	1 460	1 625	1 625
Weight*	kg	345	390	455	505	680	760	990	1 095
Boiler water content	litres	180	220	260	390	385	440	600	640
Flue connection sizes	mm	180	180	200	200	200	200	250	250
Flow & Return conn. sizes	mm	65	65	65	65	80	80	100	100
Maximum safety pressure	bar	4	4	4	4	4	4	4	4

* with thermal insulation



LTHW steel boilers Vitoplex 200 SX

Page 26

Rated output	kW	700	900	1 100	1 300	1 600	1 950
Dimensions (overall)	Depth mm	2 355	2 655	2 605	2 825	2 920	3 250
	Width mm	1 450	1 450	1 555	1 555	1 660	1 660
	Height mm	1 690	1 690	1 920	1 920	2 140	2 140
Weight*	kg	1 640	1 780	2 265	2 475	3 065	3 410
Boiler water content	litres	935	1 325	1 525	1 690	1 960	2 230
Flue connection sizes	mm	300	300	350	350	400	400
Flow & Return conn. sizes	mm	100	100	125	125	150	150
Maximum safety pressure	bar	6	6	6	6	6	6

* with thermal insulation



LTHW steel boilers Vitoplex 100 PV1

Page 32

Rated output	kW	150	200	250	310	400	500	620
Dimensions (overall)	Depth mm	1 355	1 495	1 495	1 675	1 840	1 840	1 940
	Width mm	800	800	880	880	950	950	1 015
	Height mm	1 210	1 210	1 280	1 280	1 450	1 450	1 510
Weight*	kg	415	460	525	580	790	845	1 005
Boiler water content	litres	106	230	280	340	490	460	535
Flue connection sizes	mm	178	178	198	198	248	248	248
Flow & Return conn. sizes	mm	65	65	65	65	100	100	100
Maximum safety pressure	bar	5	5	5	5	5	5	5

* with thermal insulation



LTHW steel boilers Vitoplex 100 PV1

Page 32

Rated output	kW	780	950	1 120	1 350	1 700	2 000
Dimensions (overall)	Depth mm	2 115	2 215	2 465	2 665	2 850	3 010
	Width mm	1 460	1 460	1 550	1 550	1 655	1 655
	Height mm	1 690	1 690	1 920	1 920	2 020	2 020
Weight*	kg	1 490	1 575	2 260	2 525	2 920	3 170
Boiler water content	litres	866	998	1 296	1 324	1 665	1 767
Flue connection sizes	mm	300	300	350	350	400	400
Flow & Return conn. sizes	mm	100	100	125	125	150	150
Maximum safety pressure	bar	6	6	6	6	6	6

* with thermal insulation



LTHW cast iron boilers Vitorond 200

Page 36

Rated output	kW	125	160	195	230	270
Dimensions (overall)	Depth mm	990	1 120	1 250	1 380	1 510
	Width mm	830	830	830	830	830
	Height mm	1 260	1 260	1 260	1 260	1 260
Weight*	kg	645	745	840	940	1 030
Boiler water content	litres	78	91	104	117	130
Flue connection sizes	mm	200	200	200	200	200
Flow & Return conn. sizes	mm	65	65	65	65	65
Maximum safety pressure	bar	6	6	6	6	6

* with thermal insulation. Boilers up to 270 kW can be supplied as a pre-assembled block



LTHW cast iron boilers Vitorond 200

Page 36

Rated output	kW	320	380	440	500	560	630
Dimensions (overall)	Depth mm	1 490	1 620	1 750	1 880	2 010	2 140
	Width mm	1 090	1 090	1 090	1 090	1 090	1 090
	Height mm	1 480	1 480	1 480	1 480	1 480	1 480
Weight*	kg	1 780	1 950	2 110	2 260	2 420	2 570
Boiler water content	litres	247	275	303	331	359	387
Flue connection sizes	mm	300	300	300	300	300	300
Flow & Return conn. sizes	mm	100	100	100	100	100	100
Maximum safety pressure	bar	6	6	6	6	6	6

* with thermal insulation



LTHW cast iron boilers Vitorond 200

Page 36

Rated output	kW	700	780	860	950	1 080
Dimensions (overall)	Depth mm	2 270	2 400	2 530	2 660	2 790
	Width mm	1 090	1 090	1 090	1 090	1 090
	Height mm	1 480	1 480	1 480	1 480	1 480
Weight*	kg	2 730	2 880	3 040	3 210	3 370
Boiler water content	litres	415	443	471	499	527
Flue connection sizes	mm	300	300	300	300	300
Flow & Return conn. sizes	mm	100	100	100	100	100
Maximum safety pressure	bar	6	6	6	6	6

* with thermal insulation



LTHW cast iron boilers Vitorond 100

Page 36

Rated output	kW	40	50	63	80	100
Dimensions (overall)	Depth mm	915	1 040	1 170	955	1 080
	Width mm	565	565	565	565	565
	Height mm	1 110	1 110	1 110	1 110	1 110
Weight*	kg	223	276	329	361	416
Boiler water content	litres	50	63	76	89	102
Flue connection sizes	mm	150	150	150	180	180
Flow & Return conn. sizes	mm	50	50	50	50	50
Maximum safety pressure	bar	3	3	3	3	3

* with thermal insulation



Hot water boiler Vitamax 300-LT

Page 42

Boiler type M343	Size	1	2	3	4	5	6	7
Rated output	MW	1.86	2.30	2.90	3.50	4.10	4.70	5.90
Dimensions (overall)	Depth mm	3.9	4.1	4.4	4.6	4.9	5.1	5.6
	Width mm	2.1	2.2	2.3	2.4	2.5	2.6	2.8
	Height mm	2.4	2.5	2.6	2.7	2.8	2.9	3.1
Weight*	t	5.3	6.3	7.3	8.2	9.6	10.6	13.3
Boiler water content	m ³	5.0	5.5	6.4	8.2	9.3	10.5	13.0

* with thermal insulation



Hot water boiler Vitamax 200-LW

Page 42

Boiler type M62	Size	1	2	3	4	5
Rated output	MW	2.3	2.8	3.5	4.5	6.0
Dimensions (overall)	Depth mm	4.2	4.5	4.9	5.3	5.9
	Width mm	2.0	2.0	2.2	2.3	2.4
	Height mm	2.3	2.3	2.5	2.5	2.8
Weight*						
permissible operating pressure: 6 bar	t	4.9	5.6	6.6	8.0	9.8
permissible operating pressure: 10 bar	t	5.6	6.4	7.6	9.2	11.6
permissible operating pressure: 16 bar	t	6.7	7.6	9.1	11.0	14.0
Boiler water content	m ³	4.9	5.6	7.0	8.7	10.5

* with thermal insulation

Boiler type M64	Size	1	2	3	4	5	6
Rated output	MW	8.0	10.0	12.0	14.2	16.5	20.0
Dimensions (overall)	Depth mm	6.6	7.1	7.7	8.2	8.7	9.5
	Width mm	2.7	2.9	3.0	3.3	3.5	3.7
	Height mm	3.1	3.3	3.5	3.7	4.0	4.2
Weight*							
permissible operating pressure: 6 bar	t	15.1	19.2	22.8	27.8	35.8	40.1
permissible operating pressure: 10 bar	t	17.7	22.7	24.8	31.4	39.8	48.0
permissible operating pressure: 16 bar	t	20.5	26.0	30.2	38.4	46.4	56.3
Boiler water content	m ³	15.3	18.7	22.2	26.6	33.8	39.8

* with thermal insulation



Hot water boiler Vitomax 200-HW

Page 43

Boiler type M236	Size	1	2	3	4	5	6	7	8
Combustion output	MW	0.52	0.67	0.85	1.04	1.30	1.70	2.16	2.84
Dimensions (overall)	Depth mm	2.7	2.9	3.2	3.2	3.4	3.7	4.0	4.4
	Width mm	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.3
	Height mm	1.8	1.9	2.0	2.1	2.1	2.3	2.4	2.6
Weight*									
permissible operating pressure: 6 bar	t	2.1	2.3	2.6	3.0	3.5	4.3	5.3	6.9
permissible operating pressure: 8 bar	t	2.2	2.4	2.7	3.5	3.7	5.0	5.5	7.0
permissible operating pressure: 10 bar	t	2.3	2.5	3.0	3.7	3.9	5.2	6.2	7.5
permissible operating pressure: 13 bar	t	2.4	2.6	3.2	3.8	4.5	5.4	6.5	8.5
permissible operating pressure: 16 bar	t	2.7	2.8	3.5	4.1	4.9	5.9	7.2	9.0
permissible operating pressure: 18 bar	t	3.0	3.2	3.7	4.4	5.1	6.2	7.5	9.0
permissible operating pressure: 20 bar	t	3.4	3.6	4.0	5.0	6.0	7.0	8.0	
permissible operating pressure: 22 bar	t	3.8	4.0	4.4	5.5	6.5	7.5		
permissible operating pressure: 25 bar	t	4.2	4.5	5.0	6.0	7.0			
Boiler water content	m ³	1.7	2.0	2.5	2.9	3.4	4.6	5.5	7.3

* with thermal insulation

Boiler type M238	Size	1	2	3	4	5	6	7	8
Combustion output	MW	4.00	5.10	6.80	9.05	11.30	13.55	15.75	18.20
with natural gas for fuel EL	MW	4.00	5.10	6.80	8.90	9.80	11.00	12.80	14.00
Dimensions (overall)	Depth mm	5.2	5.7	6.4	7.2	7.7	8.3	8.8	9.3
	Width mm	2.6	2.7	2.8	3.1	3.3	3.4	3.6	3.8
	Height mm	2.9	3.1	3.2	3.5	3.6	3.8	4.0	4.2
Weight*									
permissible operating pressure: 6 bar	t	9.1	11.1	14.0	19.1	22.8	28.1	32.0	38.0
permissible operating pressure: 8 bar	t	10.2	12.3	15.6	21.2	25.3	31.3	35.6	42.2
permissible operating pressure: 10 bar	t	11.2	13.5	17.1	23.3	27.9	34.4	39.2	46.4
permissible operating pressure: 13 bar	t	12.2	14.8	18.7	25.4	30.4	37.5	42.7	50.6
permissible operating pressure: 16 bar	t	13.2	16.0	20.2	27.5	32.9	4.06	46.3	54.9
permissible operating pressure: 18 bar	t	14.2	17.2	21.8	29.7	35.5	43.8	49.8	59.1
permissible operating pressure: 20 bar	t	15.2	18.5	23.4	31.8	38.0	46.9	53.4	
permissible operating pressure: 22 bar	t	16.2	19.7	24.9	33.9	40.5	50.0		
permissible operating pressure: 25 bar	t	17.3	20.9	26.5	36.0				
Boiler water content	m ³	10.5	12.8	16.0	22.0	26.0	30.0	35.0	40.0

* with thermal insulation



Hot water boiler Vitomax 100-LW

Page 43

Boiler type M148	Size	1	2	3	4	5
Rated output	MW	0.65	0.85	1.1	1.4	1.8
Dimensions (overall)	Depth mm	2.3	2.5	2.7	2.9	3.1
	Width mm	1.4	1.5	1.6	1.7	1.8
	Height mm	1.65	1.6	1.75	1.8	1.95
Weight*						
permissible operating pressure: 6 bar	t	1.5	1.8	2.1	2.6	3.2
permissible operating pressure: 10 bar	t	1.7	2.0	2.4	3.0	3.8
Boiler water content	m ³	1.1	1.3	1.5	1.8	2.2

* with thermal insulation

Boiler type M148	Size	6	7	8	9	A	B
Rated output	MW	2.3	2.9	3.5	4.2	5.0	6.0
Dimensions (overall)	Depth mm	3.4	3.6	3.9	4.4	4.5	4.9
	Width mm	1.9	2.0	2.1	2.3	2.4	2.5
	Height mm	2.1	2.2	2.3	2.4	2.5	2.6
Weight*							
permissible operating pressure: 6 bar	t	3.7	4.3	5.3	6.4	7.3	8.6
permissible operating pressure: 10 bar	t	4.4	5.3	6.2	7.8	8.9	10.4
Boiler water content	m ³	2.3	2.9	3.4	4.5	4.9	5.6

* with thermal insulation



DHW solar cylinders

Viessmann offers several versions of DHW cylinders for every application. All DHW cylinders comprise a well insulated storage tank, which is heated by internal indirect coils. Dual-mode DHW cylinders provide a connection for a second heat source, such as a solar heating system.

Vitocell 300-B

Capacity 300 to 500 litres

The Vitocell 300-B is a dual mode DHW cylinder with two indirect coils. Made from high alloy stainless steel, the Vitocell 300-B is a reliable and efficient solution for the integration of two energy sources. Available in white for 300 litres and silver for 500 litres.

DHW cylinders

Vitocell 300-V

Capacity 130 to 500 litres

The Vitocell 300-V (vertical) can satisfy larger demands for DHW, as several units can be linked together.

Vitocell 300-H

Capacity 160 to 500 litres

The Vitocell 300-H (horizontal) offers a flexible solution, with the ability to stack units to provide up to 1 500 litres of storage.



Vitocell 300-B

Cylinder capacity	Litre	300 ⁽¹⁾	500 ⁽²⁾		
Overall Dimensions	Depth	mm	704	974	
	Width	mm	633	923	
	Height	mm	1 779	1 740	
Overall Weight	kg	114	125		
Operating pressure on the heating water side	bar	25	25		
Primary flow and return (male thread)	inch	1	1 1/4		
DHW flows (male thread)	inch	1	1 1/4		
DHW secondary return (male thread)	inch	1	1 1/4		
Cold feed connection (male thread)	inch	1	1 1/4		

¹⁾ PUR-hard foam ²⁾ PUR-soft foam



Vitocell 300-V

Cylinder capacity	Litre	130*	160*	200*	200	300 *	500**
Overall Dimensions	Diameter	mm	1 111	1 203	1 423	1 420	1 779
	Width	mm	667	667	667	649	704
	Height	mm	633	633	633	581	633
Overall Weight	kg	77	84	98	76	100	111
Operating pressure on the heating water side	bar	3	3	3	25	25	25
Primary flow and return (male thread)	inch	1	1	1	1	1	1 1/4
DHW flows (male thread)	inch	3/4	3/4	3/4	1	1	1 1/4
DHW secondary return (male thread)	inch	1/2	1/2	1/2	1	1	1 1/4
Cold feed connection (male thread)	inch	3/4	3/4	3/4	1	1	1 1/4

*Peripheral - 'tank in tank' **Removable soft foam insulation



Vitocell 300-H

Cylinder capacity	Litre	160	200	350	500
Overall Dimensions	Depth	mm	1 072	1 236	1 590
	Width	mm	640	640	830
	Height	mm	654	654	786
Overall Weight	kg	76	84	172	191
Operating pressure on the heating water side	bar	25	25	25	25
Primary flow and return (male thread)	inch	1	1 1/4	1	1 1/4
DHW flows (male thread)	inch	3/4	3/4	1 1/4	1 1/4
DHW secondary return (male thread)	inch	1	1	1	1 1/4
Cold feed connection (male thread)	inch	3/4	3/4	1 1/4	1 1/4



Control units for commercial boilers

From single boilers to multi boiler systems with central control panels, Viessmann has the perfectly matched solution.

The Vitotronic digital control system is essential for the economical and safe operation of heating systems. Each unit features simple installation, commissioning and maintenance with our Rast-5 connection system, Plug & Work function and Optolink laptop interface.

The Vitotronic control unit for medium commercial/industrial boilers, offers sufficient space for clear and tidy wiring. All Vitotronic control units are VDE tested in conjunction with Viessmann boilers.

Single boiler systems

Vitotronic 300

In addition to providing the complete range of functions of the Vitotronic 200, the Vitotronic 300 also enables the control for two further heating circuits with mixer.

Vitotronic 200

The Vitotronic 200 is designed as a digital, weather-compensated boiler control unit for single boiler systems with system circuit and burners with stepped or modulating operating modes.

Vitotronic 100

The Vitotronic 100 is a digital boiler control unit for operating with a constant boiler water temperature in single boiler systems or for the first to fourth boiler in multi-boiler systems (in conjunction with the cascade control unit Vitotronic 300-K).

Where there are more than two heating circuits with mixers, a maximum of 32 Vitotronic 200-H may be connected via the communication module LON (accessory).

Multi boiler systems

Vitotronic 300-K

The Vitotronic 300-K is a weather compensated digital cascade control unit for operating up to four boilers with Vitotronic 100, including control of two mixer circuits. In addition, it supports the direct connection to the LON BUS of up to 32 Vitotronic 200-H heating circuit control units. It provides all known control strategies for multi-boiler systems. Communication within the control system is achieved via the LON. This enables the easy integration into building management systems without an additional interface. Viessmann devices are connected via Autobinding (automatic component connection and configuration).

The Vitotronic 300-K can be boiler mounted, wall mounted or integrated into the Vitocontrol control panel; it enables the central operation of the entire system.

Vitotronic 200-H is a heating circuit control unit suitable for wall, control panel or mixer mounting.

Vitotronic control units

- Integral diagnostic system
- Service display
- Cylinder temperature control
- Boiler protection: Therm control/shunt pump
- Anti-seizing pump protection
- LON BUS communication
- Optolink laptop connection
- Single or multi boiler systems



Vitotronic 300



Vitotronic 200



Vitotronic 100



Vitotronic 300-K



Vitotronic 200-H

Individual solutions with efficient systems

The comprehensive Viessmann product range for all fuel types and application areas offers top technology and sets new standards.



Vitobloc 200 – combined heat and power units from ESS

Now that the Viessmann Group includes ESS, Köb, KWT and Mawera amongst its brands, the company covers the complete breadth of powerful heating systems. These include biomass boilers, heat pumps and combined heat and power units (CHP). All systems share the use of renewables that protect finite resources. The CHP can be operated with natural gas as well as with biogas.

Wood heating systems up to 1250 kW from Köb combust wood of any kind: pellets, sawdust, wood chips and mixed wood. These are particularly suitable for commercial and industrial applications.

Mawera supplies wood combustion systems up to 13 000 kW. Commercial energy suppliers increasingly bank on biomass as a fuel. It is obtained from crisis-proof regions and makes a crucial contribution to preserving fossil fuels, not least through sustainability and CO₂ - neutrality.

Heat pumps from KWT are specifically adapted to each individual case. Subject to the challenges facing the operator, water/water, brine/water or air/water heat pumps can be supplied.

For many commercial and industrial sectors, the operation of a biomass power station with heat generation is an obvious choice, for example, in the wood processing industry, in landscape gardening and in the forestry sector. Here, suitable boilers can predominantly cover the base load. In addition, oil or gas boilers can cover peak loads and thereby safeguard a continuously efficient provision as and when required.

ESS CHP units for operation with natural gas or biogas not only generate heat but also power that can be consumed on site or fed into the public grid.



Biomass boiler from Mawera and Köb



Special heat pumps for commercial applications from KWT



Detached houses



Apartment buildings



Commerce/industry



Local heating networks



Oil low temperature and condensing technology
13 - 20 000 kW



Tythrop Park, Thame, England



ZiWei Garden, China



Ameco A380 Hangar, Beijing, China



European Parliament, Strasbourg, France



Gas low temperature and condensing technology
4 - 20 000 kW



Windsor Castle, Windsor, England



Turner Art Gallery, Kent, England



National Space Centre, Leicester, England



Kings Cross Station, London, England



Solar thermal and photovoltaics



Marris Barn, Lincolnshire, England



The Green Building, Manchester, England



Woodside Leisure Centre, Watford, England



The Palm Jumeirah, Dubai



Wood combustion technology, CHP and biogas production
4 - 13 000 kW



Frogmary Green Farm, Somerset, England



Apley Farm Shop, Shropshire, England



Ikea, Milton Keynes, England



Yarn Street, Leeds, England



Heat pumps for brine, water and air
1.5 - 2 000 kW



Domestic House, West Wales



Edgecote House, Northamptonshire, England



Aston Martin Factory, Gaydon, England



Police Headquarters, Manchester, England

The comprehensive range



Boilers for oil
up to 116 MW heat or
up to 120 t/h steam



Boilers for gas
up to 116 MW heat or
up to 120 t/h steam



Solar thermal
systems and
photovoltaics

 Detached houses			
 Apartment buildings			
 Commerce/Industry			
 Local heating networks			

Individual solutions with efficient systems

The comprehensive Viessmann product range

The comprehensive Viessmann product range offers individual solutions with efficient systems for all application areas and energy sources. For decades, the company has been supplying highly efficient, low emissions heating systems for oil and gas, as well as solar thermal systems, heat sources for sustainable fuels and heat pumps.

The comprehensive Viessmann product range provides cutting edge technology and sets new standards. With its high energy efficiency, it helps to save heating costs and is also the right choice in ecological terms.

Individual and economical

Viessmann offers the right heating system for every requirement – wall mounted or floorstanding, in individual combinations – all are futureproof and economical. Whether for detached or semi-detached houses, large residential buildings, commercial/industrial use or for local heating networks; whether for modernising existing properties or new build – Viessmann systems are always the right choice.

Key performers

The Viessmann Group sets the technological pace for the heating industry. This is what the Viessmann name represents; the company and its subsidiaries are all founded on the same pioneering spirit and power of innovation.



Wood combustion technology, CHP and biogas production up to 50 MW



Heat pumps for brine, water and air up to 2 MW



Air conditioning technology



System components



The comprehensive range of products and services from Viessmann: individual solutions with efficient systems for all energy sources and application areas

The product range for all fuel types and output ranges:

- Boilers for oil or gas up to 116 MW heat or 120 t/h steam
- Solar thermal systems
- Photovoltaics
- Heat pumps up to 2 MW
- Wood combustion technology up to 50 MW
- Combined heat and power generation up to 30 MW_{el}
- Biogas production plants from 18 kW_{el} to 20 MW_{gas}
- Biogas upgrading plants up to 3000 m³/h
- Air conditioning technology
- Heating system components
- Services

Viessmann Group



Viessmann - climate of innovation



Effizienz Plus



German Sustainability Award

Germany's Most Sustainable Production 2009



German Sustainability Award

Germany's Most Sustainable Production 2011

Viessmann was awarded the German Sustainability Prize for the "Most Sustainable Production 2009" and as being the "Most Sustainable Brand 2011"



For the particularly efficient utilisation of energy by the innovative heat recovery centre at the company's headquarters in Allendorf/Eder, Viessmann was presented with the Energy Efficiency Award 2010.

The Viessmann brand promise concisely expresses all that we hope to achieve. It is our key brand message and, together with our brand label, is an identifying feature throughout the world. "Climate of innovation" is a promise on three levels: It is a commitment to a culture of innovation. It is a promise of high product utilisation and, at the same time, an obligation to protect the environment.

Comprehensive range of products and services for all fuel types

Viessmann is one of the leading international manufacturers of heating systems and, with its comprehensive range of products and services, offers individual solutions in the shape of efficient systems for all applications and types of fuel. As an environmental pioneer, the company has been supplying particularly efficient and clean heating systems.

Acting in a sustainable manner

For Viessmann, to take responsibility, means a commitment to act in a sustainable way. This means bringing ecology, economy and social responsibility into harmony with each other, ensuring that current needs are satisfied without limiting the basis for life for the generations to come.

Efficiency Plus

With the sustainability project "Efficiency Plus" Viessmann shows at its Allendorf site, that the political goals set for 2020 with regard to climate and energy can already be achieved today with commercially available technology.

This project demonstrates:

- Environmental protection
- Efficiency with resources
- Securing manufacturing sites for the future

As a result, fossil fuels have been cut by 40 percent and CO₂ emissions reduced by a third.

Viessmann Werke GmbH & Co. KG

Company details

- Established in: 1917
- Employees: 9 600
- Group turnover: €1.86 billion
- Export share: 55 percent
- 24 production companies in 11 countries
- Sales organisation in 74 countries
- 120 sales offices worldwide

Performance spectrum

- Boilers for oil and gas
- Solar thermal systems
- Photovoltaics
- Heat pumps
- Wood combustion technology
- Combined heat and power units
- Biogas production plants
- Biogas upgrading plants
- Air conditioning technology
- Heating system components
- Services



Contact us

Viessmann UK Ltd, Hortonwood 30, Telford, Shropshire, TF1 7YP

Telephone

01952 675000

Fax

01952 675040

Email

info-uk@viessmann.com

Sales

Telephone – Domestic

01952 675010

Email

domsales-uk@viessmann.com

Telephone – Commercial

01952 675090

Email

comsales-uk@viessmann.com

Fax

01952 678600

Training academy

Telephone

01952 675032

Email

academy-uk@viessmann.com

Technical helpline

Telephone

01952 675070

Email

technical-uk@viessmann.com

After sales

Telephone

01952 675060

Email

aftersales-uk@viessmann.com

Spares

Telephone

01952 675013

Email

spares-uk@viessmann.com

Online

Register online for engineer service requests and warranties

www.viessmann.co.uk



climate of innovation

Viessmann Limited
Hortonwood 30, Telford
Shropshire, TF1 7YP
Tel: 01952 675000
Fax: 01952 675040
www.viessmann.co.uk

Your trade partner:

9443 234 GB 10/2012

Copyright Viessmann

Duplication and alternative use only with prior written consent.

Subject to technical modifications.