VIESMANN

VITODENS 200

Gas fired condensing boiler
4.5 to 66.3 kW

Datasheet

Part nos. and prices: see price list

File in:
Vitotec folder, register 13

Vitodens 200

Type WB2

Gas fired wall mounted condensing boiler,
with modulating MatriX-compact gas burner,
for open or balanced flue operation

For natural gas and LPG

VDE-designation approval with manufacturing controls in accordance with DIN EN 50165

VDE-EMC designation for boilers to DIN VDE

CE designation in accordance with current EC directives

Certified to DIN ISO 9001
Certificate no. 12 100 5581

Clean combustion. Performs significantly better than the limits set by the "Blue Angel" certificate of environmental excellence to RAL UZ 61.

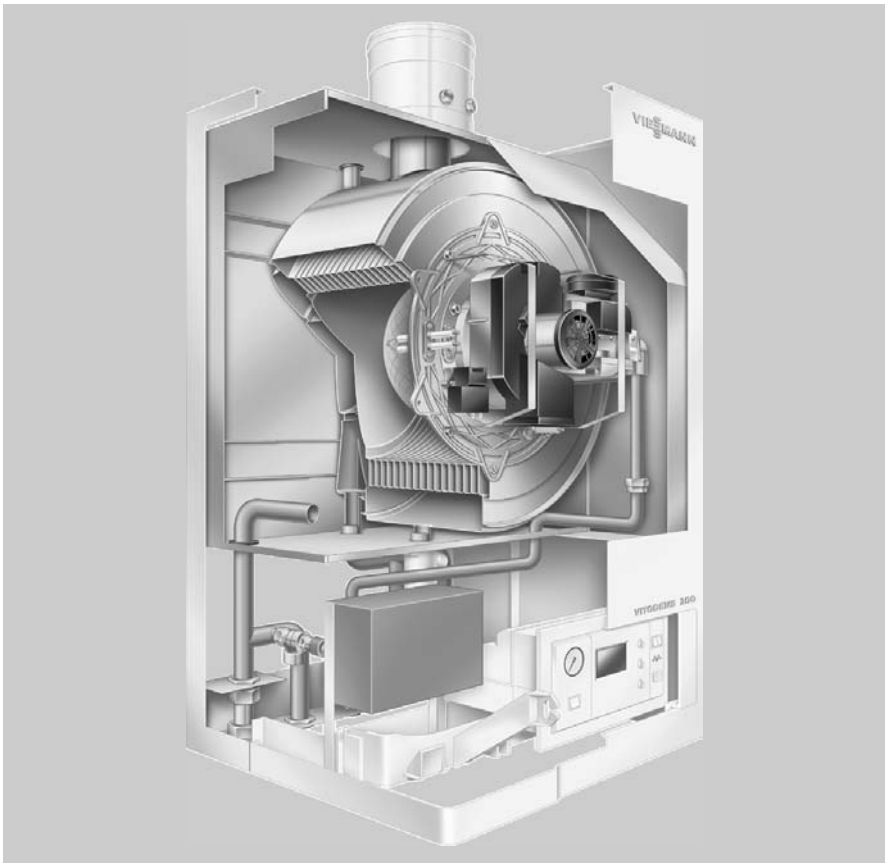
VITODENS 200

Vitodens 200 offers you an attractively priced yet high quality condensing boiler in stainless steel, consistently combining all benefits of modern condensing technology. In matters of energy utilisation this boiler makes no compromises: Thanks to its innovative burner technology with modulating MatriX-compact gas burner and specially developed Inox-Radial heating surface, this boiler achieves a standard efficiency up to 109%.

Benefits at a glance

- Gas fired condensing boiler
  Boiler: 4.5 to 66.3 kW,
  combination boiler: 6.6 to 26.3 kW.
- Standard efficiency: up to 109%.
- Extremely low emissions – performs better than the limits set for the "Blue Angel" certificate of environmental excellence, and meets the most stringent requirements in the world set by the Hamburg climate protection accord "Heating + Solar".
- Low power consumption through governed DC fan and heating circuit pump.
- As a condensing combination boiler: High DHW convenience as a result of its integrated DHW Quick-System and comfort control – i.e. instant hot water at a constant temperature.
- User-friendly controls; room temperature dependent or weather-compensated mode with integrated diagnosis system and Optolink laptop interface.
  The cascade control enables a rated output up to 265 kW.
- Particularly easy to install, maintain and service, due to modular design on unit platforms with the modular Viessmann multi-connect system.
- Space saving, because clearances at the boiler sides are no longer required.
- Automatic flue gas regulation for balanced flue types. The independent automatic adjustment to climatic conditions eliminates the need for manual adjustments during commissioning and operation.
- Flexible connections to competitive products enable the easy replacement of other boiler makes.

Vitodens 200 – 48.6 and 66.3 kW



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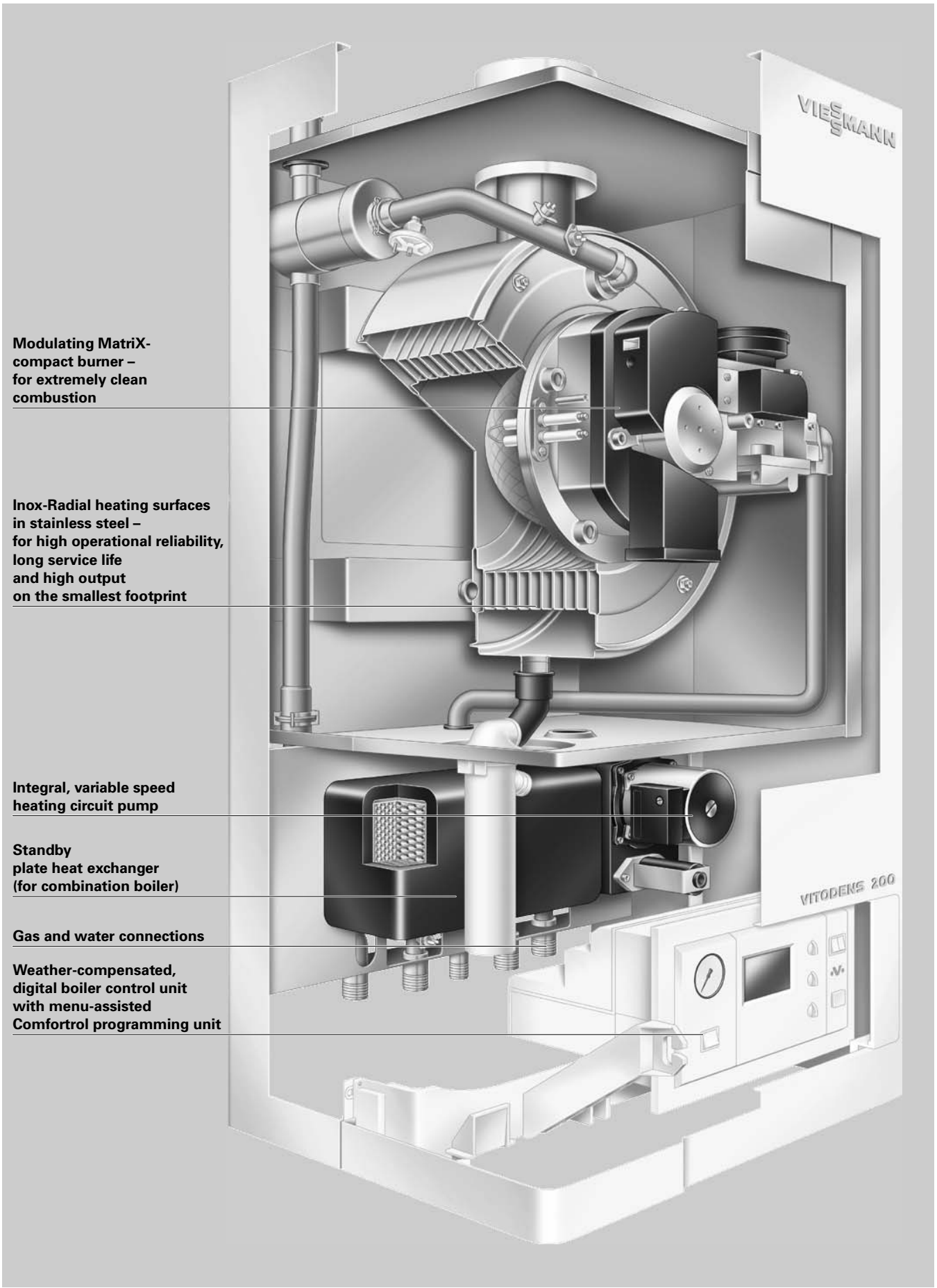
Modulating MatriX-compact burner – for extremely clean combustion
Inox-Radial heating surfaces in stainless steel – for high operational reliability, long service life and high output on the smallest footprint
Integral, variable speed heating circuit pump
Standby plate heat exchanger (for combination boiler)
Gas and water connections
Weather-compensated, digital boiler control unit with menu-assisted Comfortrol programming unit
VIESMANN
VITODENS 200

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Specification

Gas fired boiler, series B and C, Category I_{2ELL} (natural gas version) Category $II_{2ELL\ 3P}$ (LPG version)		**Gas fired boiler**					**Gas fired combination boiler**
Rated output range[*1]							
– Central heating							
T_V/T_R = 50/30 °C	kW	4.5-12.0	6.6-26.3	8.7-35.0	12.2-48.6	16.6-66.3	6.6-26.3
T_V/T_R = 80/60 °C	kW	4-11	6-24	8-32	11-44	15-60	6-24
– DHW heating	kW	4-16	6-24	8-32	11-44	15-60	6-24
Rated thermal load	kW	4.2-16.7	6.3-25	8.3-33.3	11.6-46.3	15.8-63.2	6.3-25
Product ID		CE-0085 AT 0355					
Gas supply pressure							
Natural gas	mbar	20	20	20	20	20	20
LPG	mbar	50	50	50	50	50	50
Max. permiss. gas supply pressure[*2]							
Natural gas	mbar	25.0	25.0	25.0	25.0	25.0	25.0
LPG	mbar	57.5	57.5	57.5	57.5	57.5	57.5
Max. power consumption (incl. circulation pump for 4 to 32 kW)	W	120	120	120	85	85	120
Weight	kg	65	65	75	90	90	72
Capacity Heat exchanger	litres	3.7	3.7	4.9	9.5	9.5	3.7
Heating water volume flow at 200 mbar residual head	l/h	1050	1050	1380	—[*3]	—[*3]	1050
Max. volume flow (limits for the use of a low loss header)	l/h	—	1400	1600	3500	3500	1400
Rated circulation water volume at ΔT = 20 K	l/h	473	1032	1376	1892	2580	1032
Permiss. operating pressure	bar	3	3	3	3	3	3
Connections							
Boiler flow and return	G (male thread)	¾″	¾″	¾″	1½″	1½″	¾″
Safety valve	R (female thread)	¾″	¾″	¾″	—	—	¾″
	R (male thread)	—	—	—	1″	1″	—
Dimensions							
Length	mm	406	406	406	550	550	406
Width	mm	500	500	500	600	600	500
Height	mm	900	900	900	900	900	900
Height with flue pipe bend (acc.)	mm	1116	1116	1116	1200	1200	1116
Height with DHW cylinder installed below boiler	mm	1975	1975	1975	—	—	—
Gas connection	R (male thread)	½″	½″	½″	¾″	¾″	½″
Standby instantaneous water heater[*4]							
Capacity DHW	litres	—	—	—	—	—	1.00
heating water	litres	—	—	—	—	—	0.70
Hot and cold water connections	G (male thread)	—	—	—	—	—	½″
Permiss. operating pressure (DHW side)	bar	—	—	—	—	—	10
Outlet temperature (adjustable)	°C	—	—	—	—	—	38-57
Continuous DHW output for DHW temperature rise from 10 to 45 °C	kW	—	—	—	—	—	24
	l/h	—	—	—	—	—	590
Draw-off rate	litres/min	—	—	—	—	—	3-8

*[*1]Details to EN 677.*

*[*2]If the gas supply pressure is higher than the maximum permitted value, a separate gas governor must be installed upstream of the system.*

*[*3]Heating circuit pump available as accessory.*

*[*4]Minimum pressure of the cold water connection 1 bar.*

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Gas fired boiler			Gas fired boiler					Gas fired combination boiler
Rated output range								
– Central heating								
T_V/T_R = 50/30 °C	kW	4.5-12.0	6.6-26.3	8.7-35.0	12.2-48.6	16.6-66.3	6.6-26.3
T_V/T_R = 80/60 °C	kW	4-11	6-24	8-32	11-44	15-60	6-24
– DHW heating	kW	4-16	6-24	8-32	11-44	15-60	6-24
Connection values relative to max. output							
with gas with H_{uB}							
natural gas E 9.45 kWh/m³ 34.01 MJ/m³	m³/h	1.77	2.65	3.52	4.90	6.69	2.65
natural gas LL 8.13 kWh/m³ 29.25 MJ/m³	m³/h	2.05	3.08	4.10	5.64	7.77	3.08
LPG 12.79 kWh/m³ 46.04 MJ/m³	kg/h	1.30	1.94	2.59	3.62	4.94	1.94
Flue gas values[*1]							
Flue gas value group according to G 635		G_{52}	G_{52}	G_{52}	G_{52}	G_{52}	G_{52}
Temperature (at a return temperature of 30 °C)							
– at rated output	°C	35	45	45	35	40	45
– at partial load	°C	32	35	35	33	35	35
Temperature (at a return temperature of 60 °C)	°C	65	70	70	65	70	70
Mass flow rate							
– for natural gas							
– at rated output	kg/h	31.5	47.3	63.2	81.2	110.6	47.3
– at partial load	kg/h	7.8	11.8	15.7	21.1	27.7	11.8
– for LPG							
– at rated output	kg/h	30.9	46.4	61.0	78.2	106.7	48.4
– at partial load	kg/h	7.7	11.5	15.4	18.0	26.6	11.5
Available draught	Pa	100	100	100	100	100	100
	mbar	1.0	1.0	1.0	1.0	1.0	1.0
Standard efficiency at							
– T_V/T_R = 50/30 °C	%	109	109	109	109	109	109
– T_V/T_R = 80/60 °C	%	104	104	104	104	104	104
Average condensate volume for natural gas and							
– T_V/T_R = 50/30 °C	litres/day	5-6	11-13	15-17	14-19	23-28	11-13
– T_V/T_R = 80/60 °C	litres/day	3.5-4	8-10	10-12	11-15	18-22	8-10
Internal diameter of the pipe to the expansion vessel	DN	20	20	20	20	20	20
Safety valve	DN	15	15	15	20	20	15
Condensate connection	Hose coupling ∅ mm	20-24	20-24	20-24	20-24	20-24	20-24
Flue outlet	Internal ∅ mm	80	80	80	100	100	80
Ventilation pipe	External ∅ mm	125	125	125	150	150	125

*[*1] Calculation values for sizing the flue gas system to DIN 4705.*
Flue gas temperatures measured as gross values at 20 °C combustion air temperature.
The details for partial load refer to an output of 30% of rated output. Calculate the flue gas mass flow rate accordingly when the partial load differs from that stated above (subject to the burner mode).
The flue gas temperature at a return temperature of 30 °C is decisive for sizing the flue gas system.
The flue gas temperature at a return temperature of 60 °C is used to determine the application range of flue pipes with maximum permissible operating temperatures.

▶ *For the specification of DHW cylinders and Viessmann system design components, see separate datasheets.*

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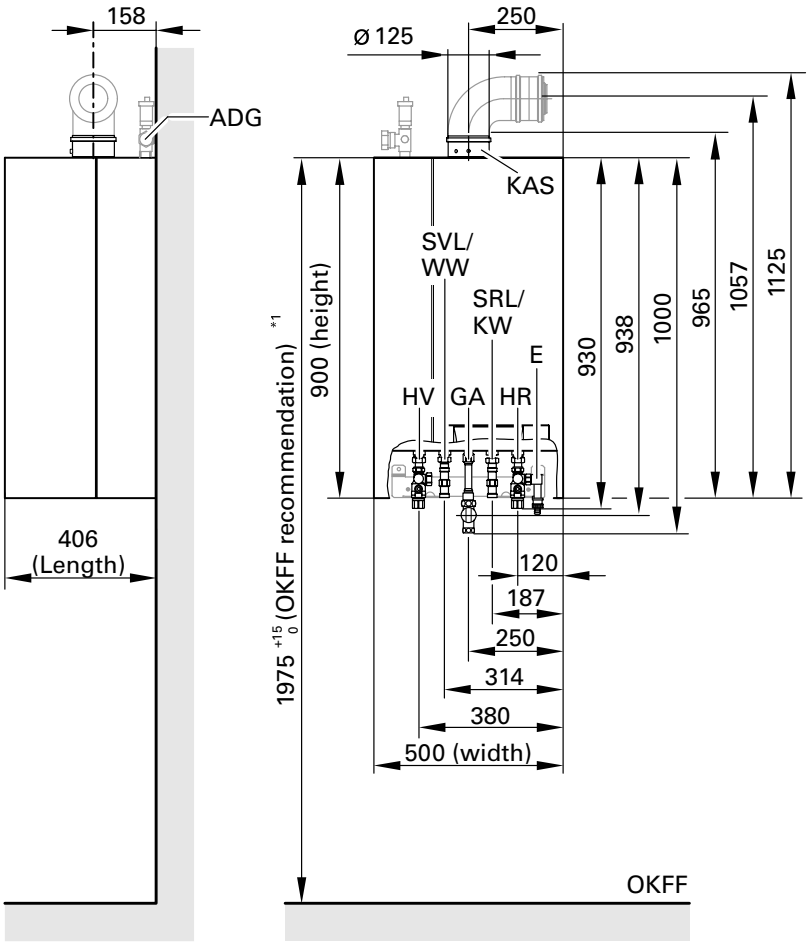
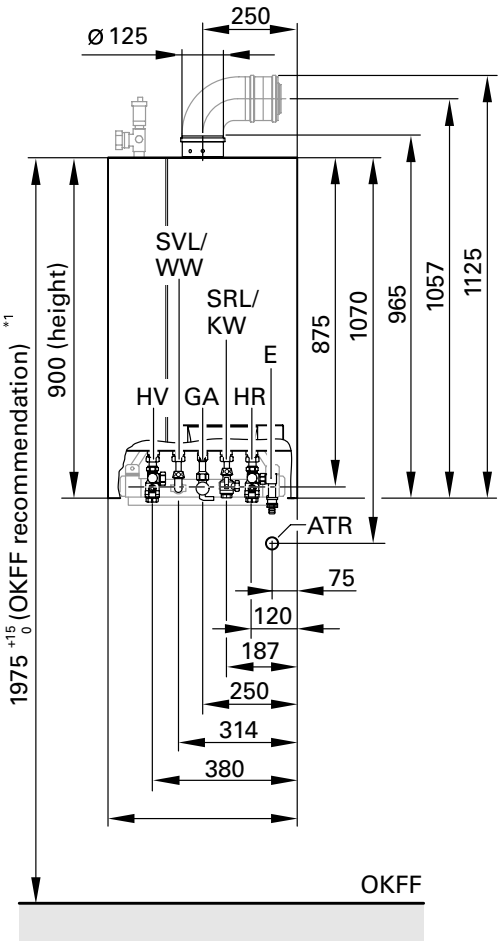
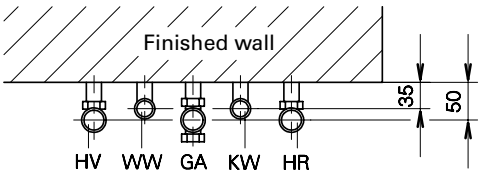
Vitodens 200 to 35.0 kW

Installation on finished walls



Installation on unfinished walls





*[1]*Obligatory in conjunction with DHW cylinders installed below the boiler. Otherwise, recommendation only.*

Key

ADG	Expansion vessel G ¾"
ATR	Drain funnel connection
E	Drain
GA	Gas connection
HR	Heating return
HV	Heating flow
KAS	Boiler adaptor
OKFF	Top edge finished floor
SIV	Safety valve

Gas fired combination boilers only:

KW	Cold water G ½"
WW	Hot water G ½"

Gas fired boilers only:

SRL	Cylinder return G ¾"
SVL	Cylinder flow G ¾"

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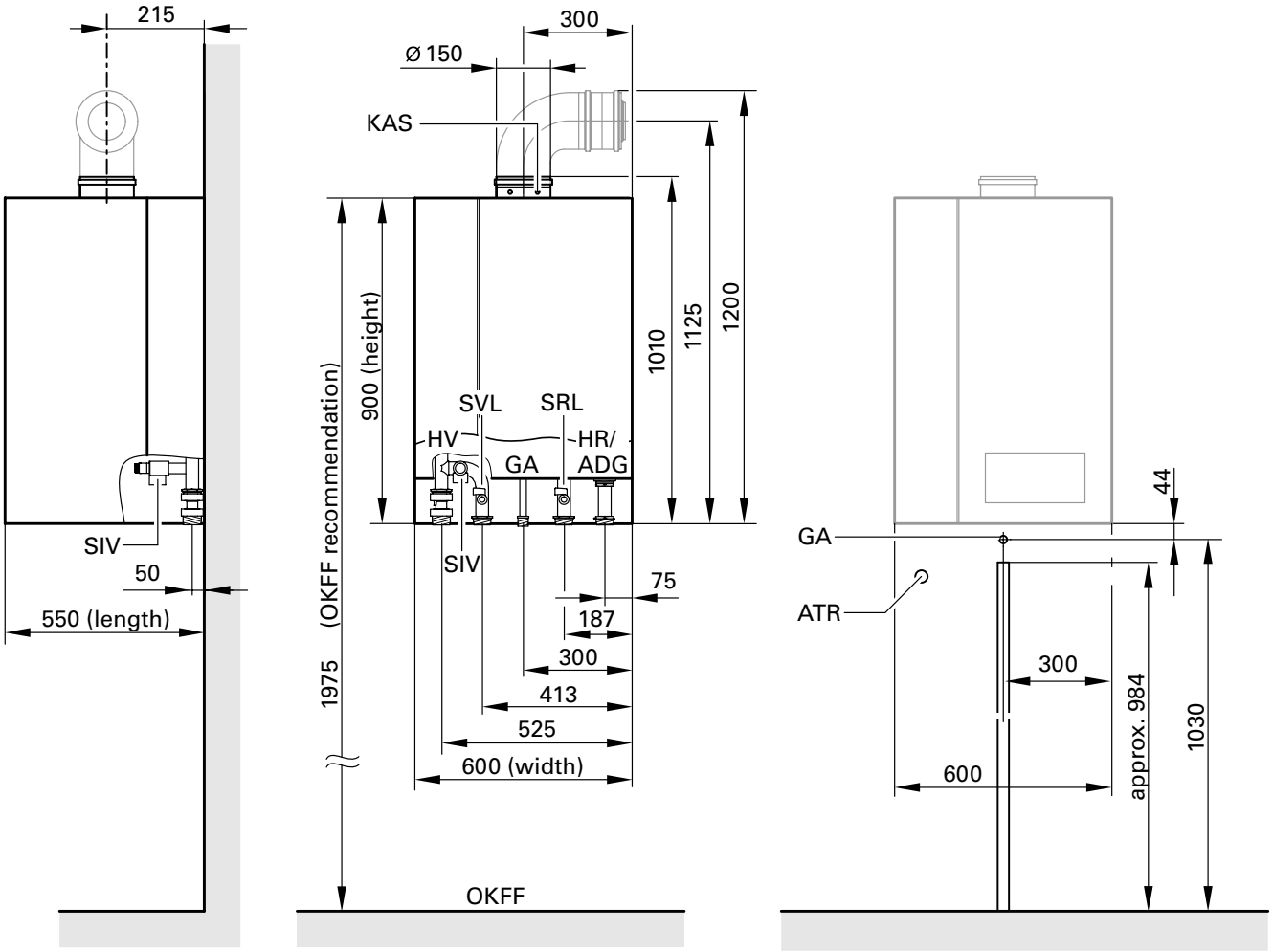
Vitodens 200 from 48.6 kW



Key

ADG Expansion vessel (G 1")
ATR Drain funnel connection
GA Gas connection
HR Heating return
HV Heating flow
KAS Boiler adaptor
OKFF Top edge finished floor
SIV Safety valve
SRL Cylinder return G 1½"
SVL Cylinder flow G 1½"

Multi-boiler systems

For details regarding multi-boiler systems, see Vitodens Technical Guide and price list.

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Variable speed heating circuit pump

The pump speed and therefore the flow rate is relayed to the pump, and is set by the control unit subject to outside temperature and switching times for the central heating or reduced mode via an internal data BUS.

Individually match the minimum and maximum speed plus the speed during reduced mode to the existing heating system using the control unit codes.
In the delivered condition, the minimum pump capacity (code address "044") is set to 30% and the maximum pump capacity (code address "045") to 65%.

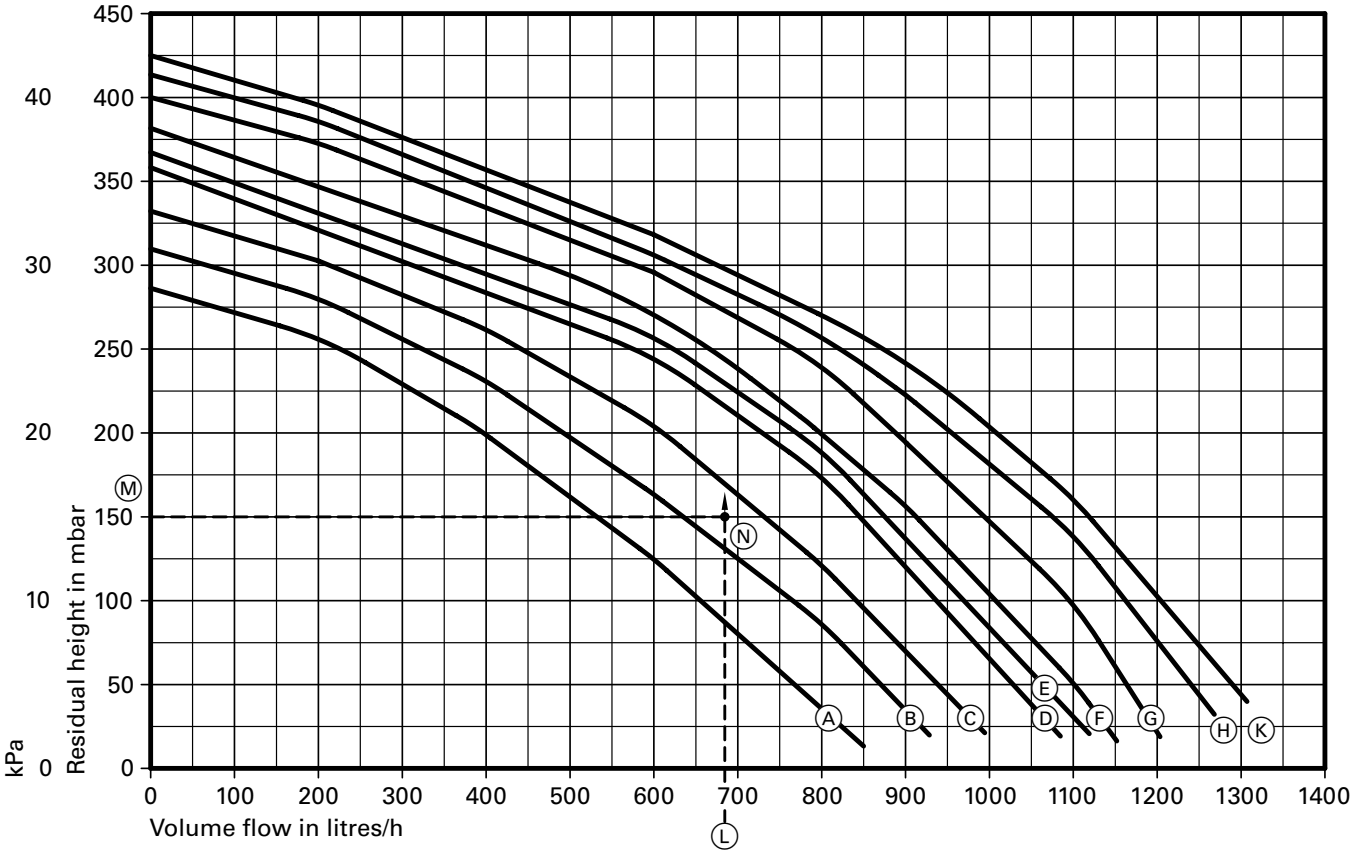
Using the diagram, the flow rate can be adjusted to the respective system conditions.
Matching the flow rate of the circulation pump to the individual system conditions reduces the power consumption of the heating system.

Vitodens 200, 4.5 to 26.3 kW

Circulation pump VIUPE 60 BUS

Rated voltage	V ~	230
Rated current	A max.	0.45
	min.	0.21
Power consumption	W max.	100
	min.	50
	as delivered condition	85

Residual head of the integral circulation pump



Curve	Pump capacity circulation pump	Setting Code address setting "045"
Ⓐ	30%	045:030
Ⓑ	40%	045:040
Ⓒ	50%	045:050
Ⓓ	60%	045:060
Ⓔ	65%	045:065
Ⓕ	70%	045:070
Ⓖ	80%	045:080
Ⓗ	90%	045:090
Ⓚ	100%	045:100

Example
- Vitodens 200, 6.6 to 26.3 kW
- Radiator heating system, heat demand 16 kW
  ≙ Volume flow 688 litres/h Ⓛ
- Design temperatures 75/55 °C
- Pressure drop 150 mbar Ⓜ
- Design point Ⓝ

Optimum pump curve acc. to diagram:
Ⓒ = code address "045:050".

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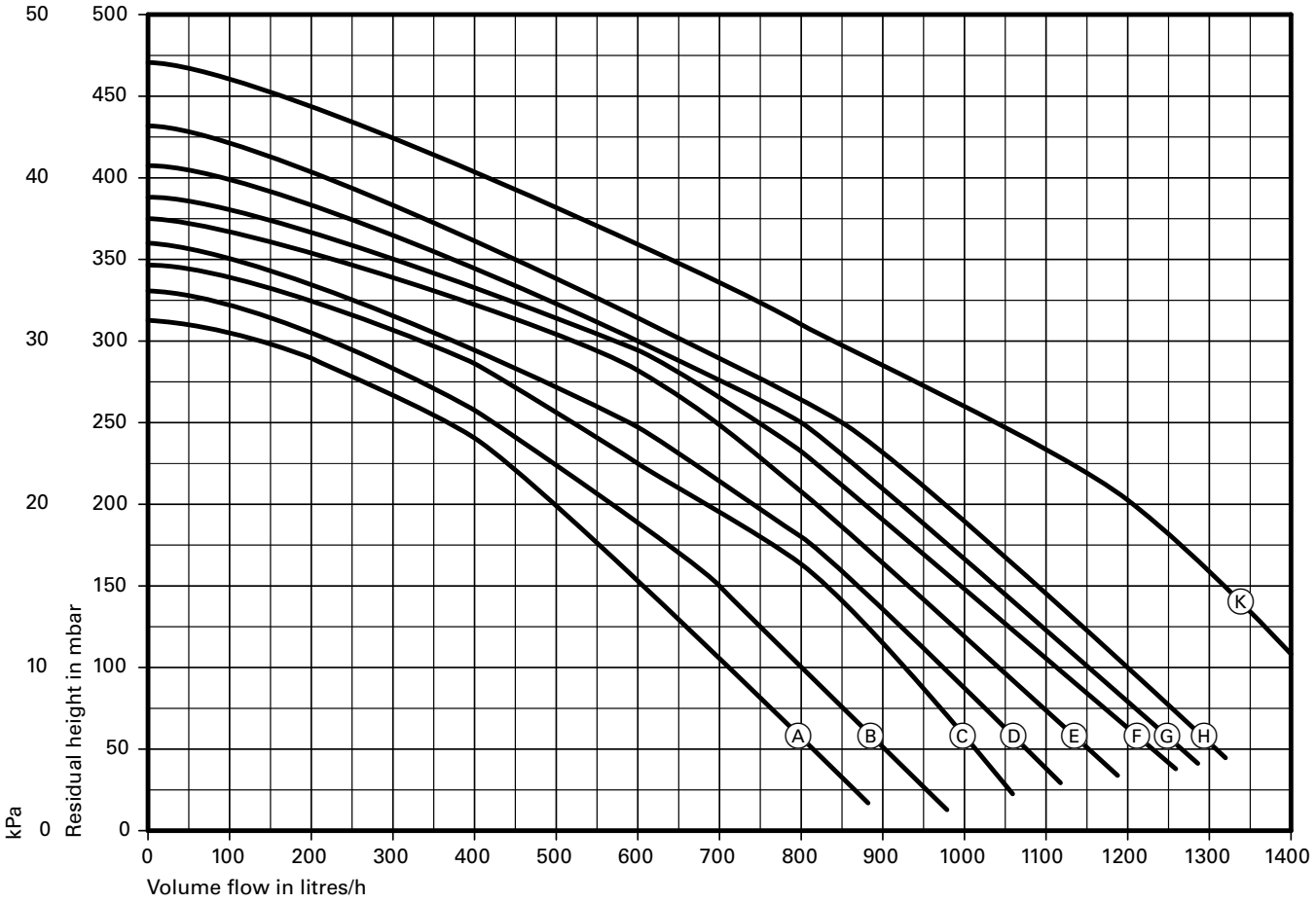
Vitodens 200, 8.7 to 35 kW

Circulation pump VIHU 7 BUS

Rated voltage	V ~	230
Rated current	A max.	0.55
	min.	0.37
Power consumption	W max.	126
	min.	42
	as delivered condition	93

Residual head of the integral circulation pump

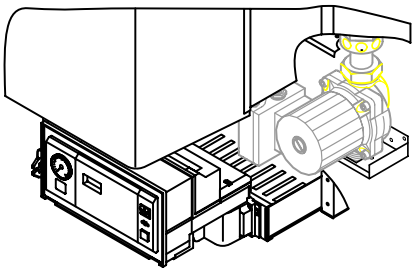


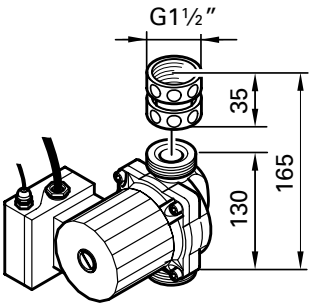
Curve	Pump capacity circulation pump	Setting Code address setting "045"
Ⓐ	30%	045:030
Ⓑ	40%	045:040
Ⓒ	50%	045:050
Ⓓ	60%	045:060
Ⓔ	65%	045:065
Ⓕ	70%	045:070
Ⓖ	80%	045:080
Ⓗ	90%	045:090
Ⓚ	100%	045:100

Vitodens 200 from 48.6 kW

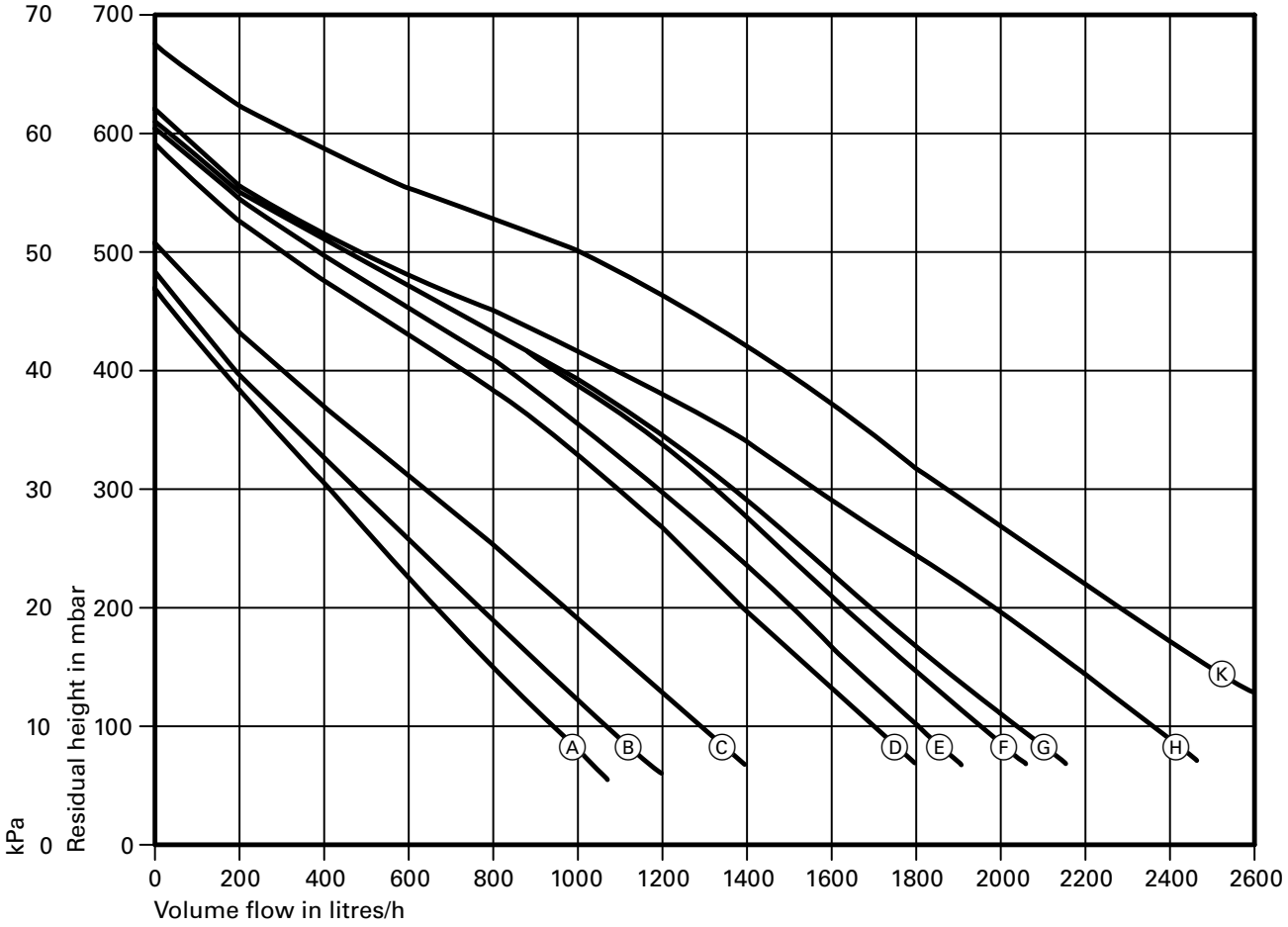
Circulation pump VIRS 7 BUS
variable speed, ready to plug in
for installation into the boiler or as
external pump for pipe installation
(with check valve).

Rated voltage	V ~	230
Rated current	A max.	0.55
	min.	0.37
Condenser	µF	3.5
Power consumption	W max.	126
	min.	42
	as delivered condition	93





Residual head of the circulation pump



Curve	Pump capacity circulation pump	Setting Code address setting "045"
Ⓐ	30%	045:030
Ⓑ	40%	045:040
Ⓒ	50%	045:050
Ⓓ	60%	045:060
Ⓔ	65%	045:065
Ⓕ	70%	045:070
Ⓖ	80%	045:080
Ⓗ	90%	045:090
Ⓚ	100%	045:100

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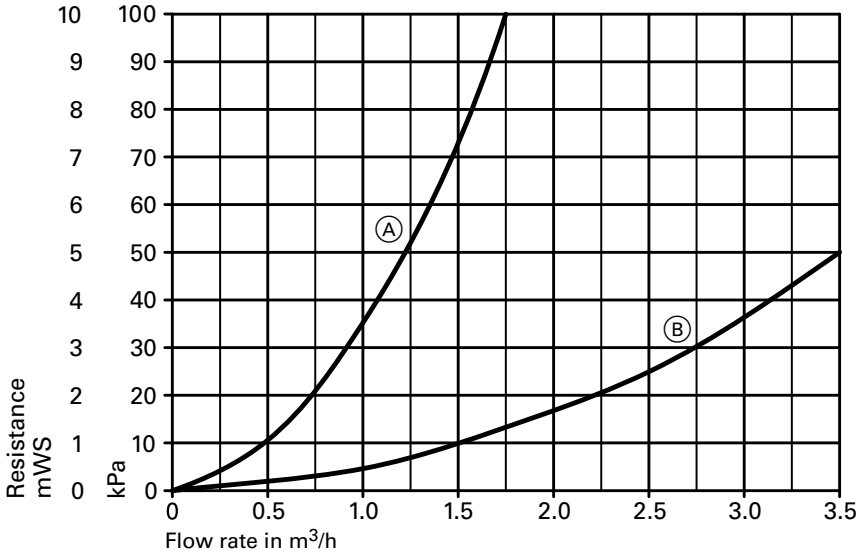
Pressure drop (primary circuit)

For the design of an on-site heating circuit pump.



Ⓐ Vitodens 200 to 35.0 kW
Ⓑ Vitodens 200 from 48.6 kW

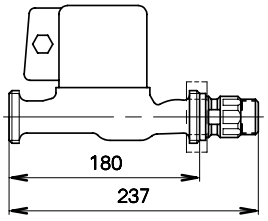
DHW heating with DHW cylinder

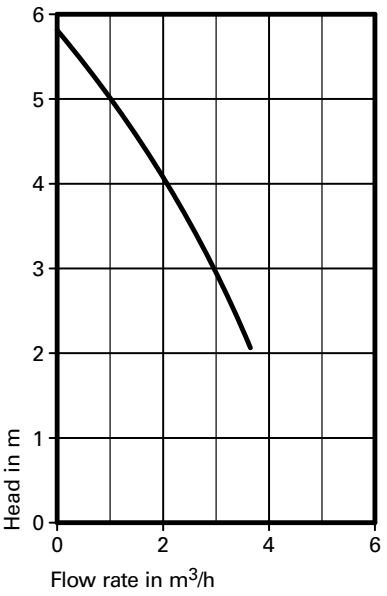
Vitodens 200 gas fired boiler
up to 35.0 kW
DHW cylinder, see separate datasheet.

Vitodens 200 gas fired boiler
from 48.6 kW
This boiler may be combined with DHW cylinders from Viessmann (see register 15 and 16), subject to their respective specification.
Vertical DHW cylinder, available in white as Vitocell-V 100 to 300 litres, as Vitocell-V 300 (type EVA) to 200 litres and Vitocell-B 100 with 300 litres (product description with supplement "-W").
All other DHW cylinders are available in Vitosilver.

Cylinder loading pump

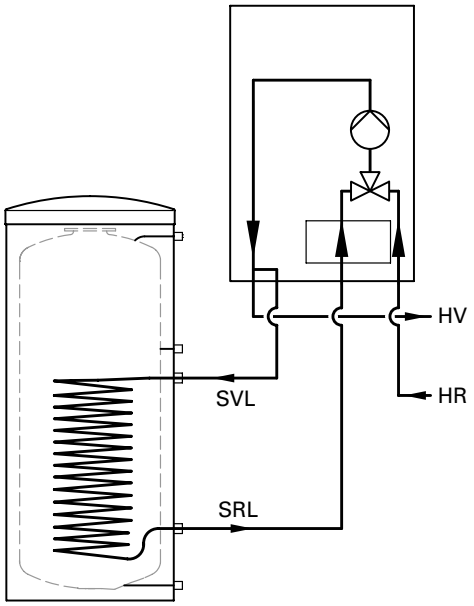
Part no.		7339 468
Pump type		VIRS 30/6-1
Voltage	V ~	230
Rated current	A	0.63
Condenser	µF	3.6
Power consumption	W	110-140
Connection	R (fem.)	1¼"
Connecting cable	m	4.7



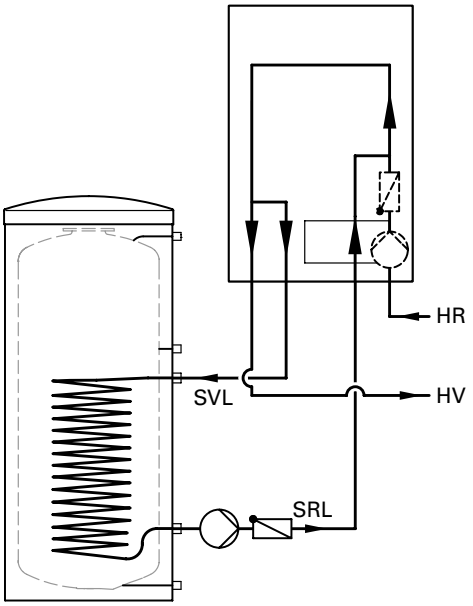


Connection diagram for DHW cylinder

Vitodens 200 to 35.0 kW
Including connection set and integral DHW circulation pump (via three-way valve)



Vitodens 200 from 48.6 kW
With external DHW circulation pump (accessory)



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Pre-installation on unfinished wall for installation of Vitodens 200 (up to 35 kW) directly to the wall – Installation on finished walls

Required accessories for installations without DHW cylinder

Installation template
incl. fixing parts, valves and gas stop cock R ½" with integral thermal safety shut-off valve

Additional requirements when connecting a DHW cylinder

Connection set for DHW cylinders

Please note:
Ensure a clearance of 700 mm in front of Vitodens or the DHW cylinder for maintenance purposes.
Maintenance spaces to the l.h. or r.h. side of Vitodens are **not** required.

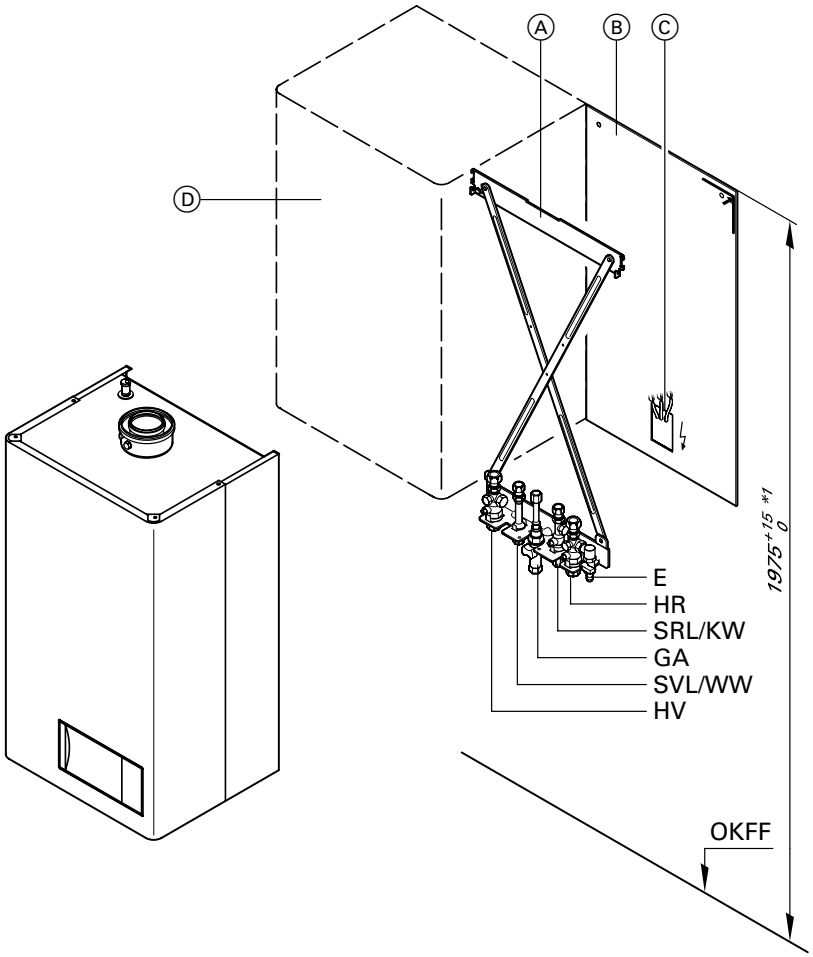

Illustration: Gas fired combination boiler connection

Key

E Drain
GA Gas connection R ½"
HR Heating return G ¾"
HV Heating flow G ¾"
OKFF Top edge finished floor

Only for gas fired combination boilers
KW Cold water G ½"
WW Hot water G ½"

Only for gas fired boilers
SRL Cylinder return G ¾"
SVL Cylinder flow G ¾"

*[1] *Obligatory in conjunction with DHW cylinders installed below the boiler. Otherwise, recommendation only.*

Ⓐ Installation template
Ⓑ Vitodens
Ⓒ Area for electrical supply cables. Allow all cables to protrude approx. 1200 mm from the wall.
Ⓓ Wall mounted DHW cylinder (if installed)

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Pre-installation on unfinished wall for installation of Vitodens 200 (up to 35 kW) directly to the wall – Installation on unfinished walls

Required accessories for installations without DHW cylinder

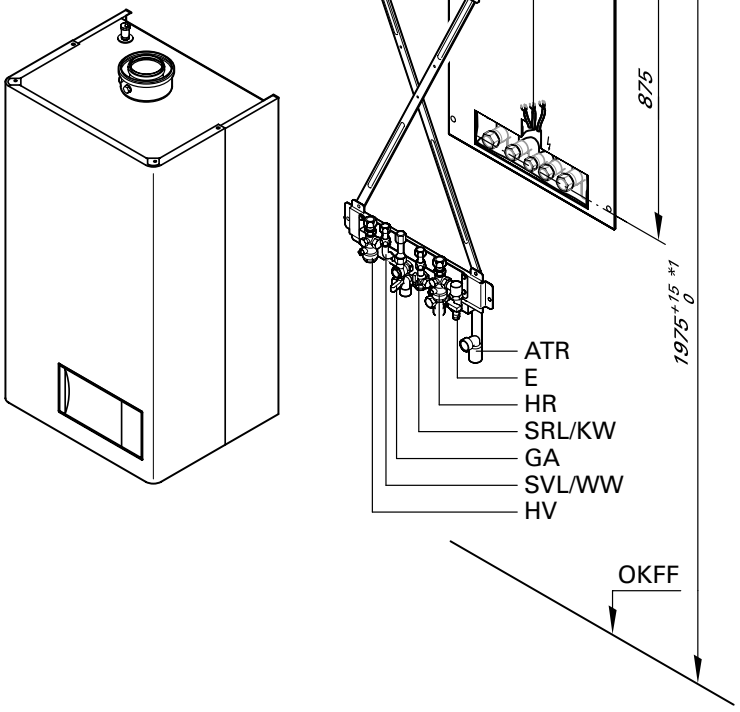
Installation template
incl. fixing parts, valves and gas stop cock R ½" with integral thermal safety shut-off valve

Additional requirements when connecting a DHW cylinder

Connection set for DHW cylinders

Please note:
Ensure a clearance of 700 mm in front of Vitodens or the DHW cylinder for maintenance purposes.
Maintenance spaces to the l.h. or r.h. side of Vitodens are **not** required.

Pre-assembly unit
For the pre-assembly of on-site pipework without fitting valves.
The pre-assembly unit is fitted instead of valves to the installation template for unfinished walls. The pre-assembly unit is removed before the boiler is installed and can be reused.



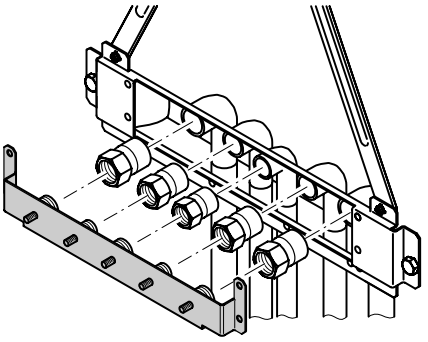


Illustration: Gas fired combination boiler connection

Key
ATR Drain funnel connection R 1"
E Drain
GA Gas connection R ½"
HR Heating return G ¾"
HV Heating flow G ¾"
OKFF Top edge finished floor

Only for gas fired combination boilers
KW Cold water G ½"
WW Hot water G ½"

Only for gas fired boilers
SRL Cylinder return G ¾"
SVL Cylinder flow G ¾"

*[1] *Obligatory in conjunction with DHW cylinders installed below the boiler. Otherwise, recommendation only.*

Ⓐ Installation template
Ⓑ Vitodens
Ⓒ Area for electrical supply cables. Allow all cables to protrude approx. 1200 mm from the wall.

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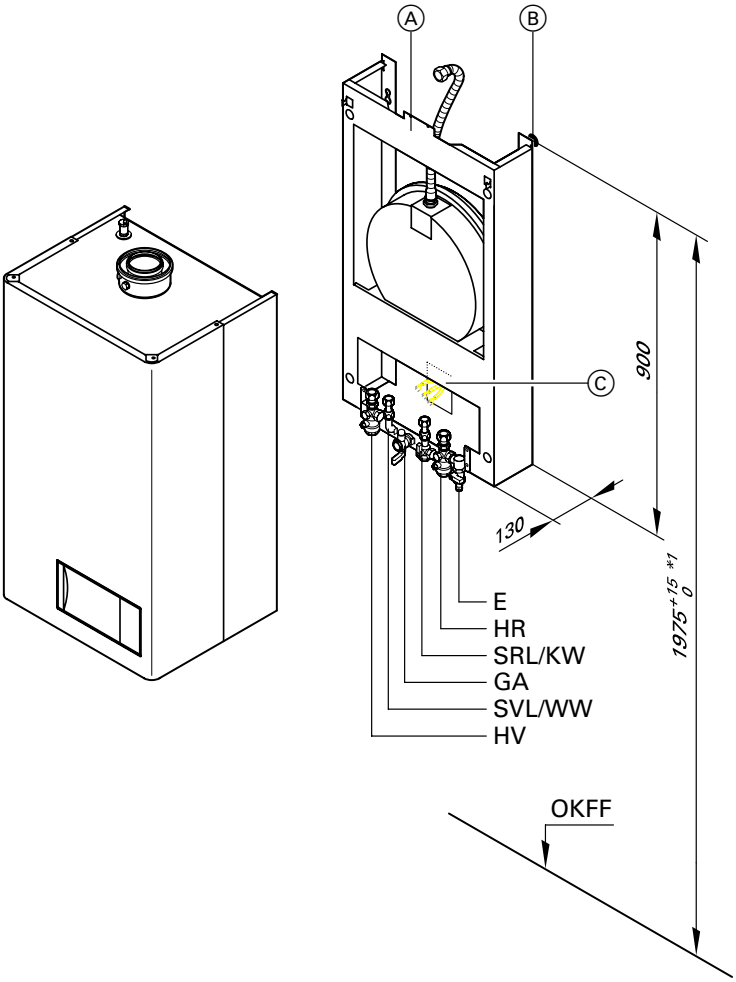
Pre-installation of Vitodens 200 (up to 35 kW) on unfinished walls with mounting frame



Mounting frame
With diaphragm expansion vessel (nominal capacity 11 litres), valves, fixings parts and gas angle valve R ½" incl. thermal safety shut-off valve
- for gas fired combination boiler
  - for installation on finished walls
    - with solder fittings
    - with compression fittings
  - for installation on unfinished walls

- for gas fired boiler
  - for installation on finished walls
    - with solder fittings
    - with compression fittings
  - for installation on unfinished walls

All valves are located under the boiler cover.

Please note:
Ensure a clearance of 700 mm in front of Vitodens 200 or the DHW cylinder for maintenance purposes.
Maintenance spaces to the l.h. or r.h. side of Vitodens 200 are **not** required.
The mounting frame must **not** be plastered over.

Key

E	Drain
GA	Gas connection R ½"
HR	Heating return G ¾"
HV	Heating flow G ¾"
OKFF	Top edge finished floor

Gas fired combination boilers only:

KW	Cold water G ½"
WW	Hot water G ½"

Gas fired boilers only:

SRL	Cylinder return G ¾"
SVL	Cylinder flow G ¾"

*1 *Compulsory in conjunction with DHW cylinders installed below the boiler. Otherwise, recommendation only.*

Ⓐ Mounting frame Vitodens 200
Ⓑ Boiler top edge
Ⓒ Area for electrical supply cables

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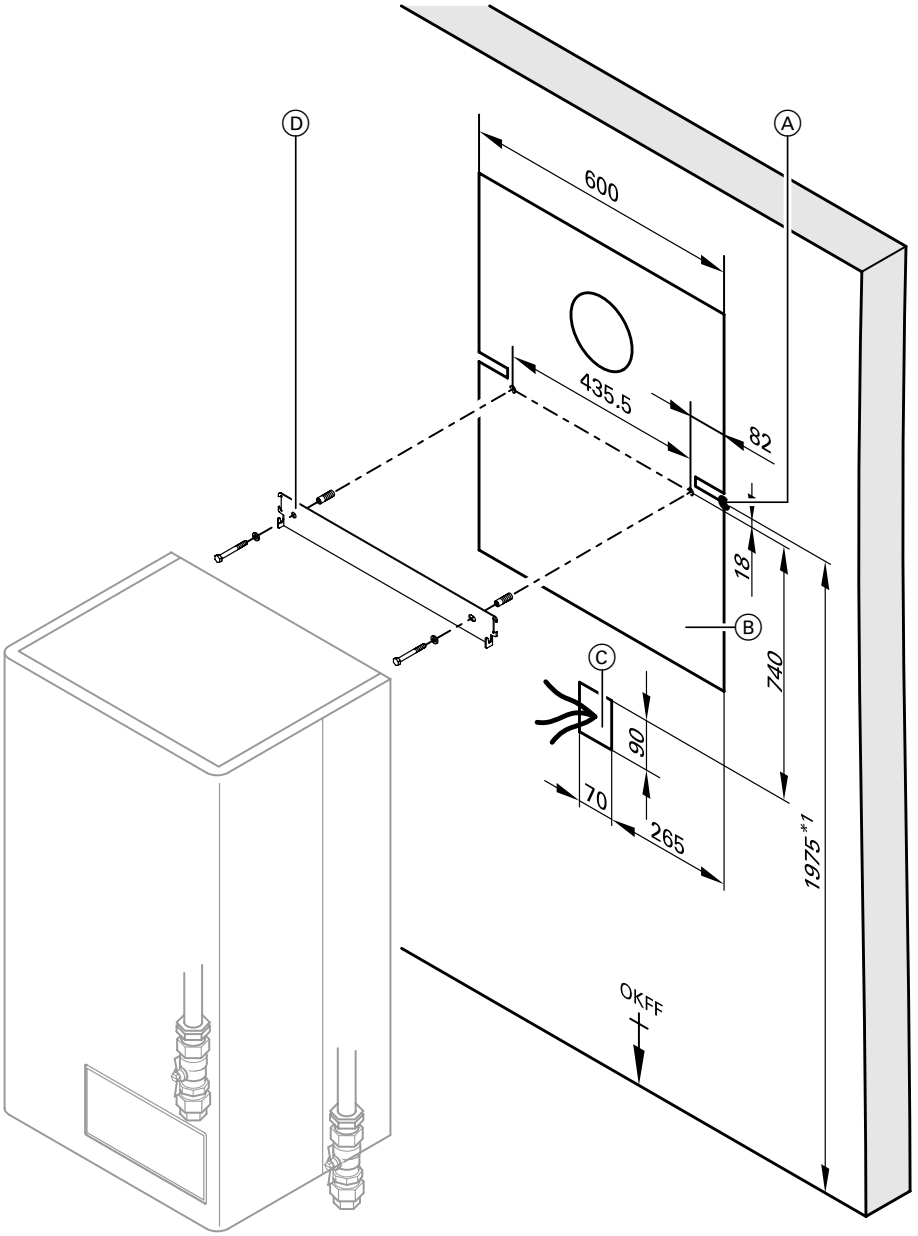
Pre-installation on unfinished wall for installation of Vitodens 200 (from 48.6 kW) directly to the wall

An installation template is supplied with Vitodens 200 for the location of fixing holes for the wall mounting frame and the location of the flue pipe on the wall.

Make the connection to the heating circuits on site (maintenance valves and connection fittings available as accessories).
Suitable shut-off valves and the gas valve can be ordered separately (see price list).

Please note:
Ensure a clearance of 700 mm in front of Vitodens 200 for maintenance purposes. Maintenance spaces to the l.h. or r.h. side of Vitodens 200 are **not** required.



Ⓐ Reference point Vitoplus 200 top edge
Ⓑ Wall holder
Ⓒ Installation template Vitodens 200

*1 *Recommendation.*

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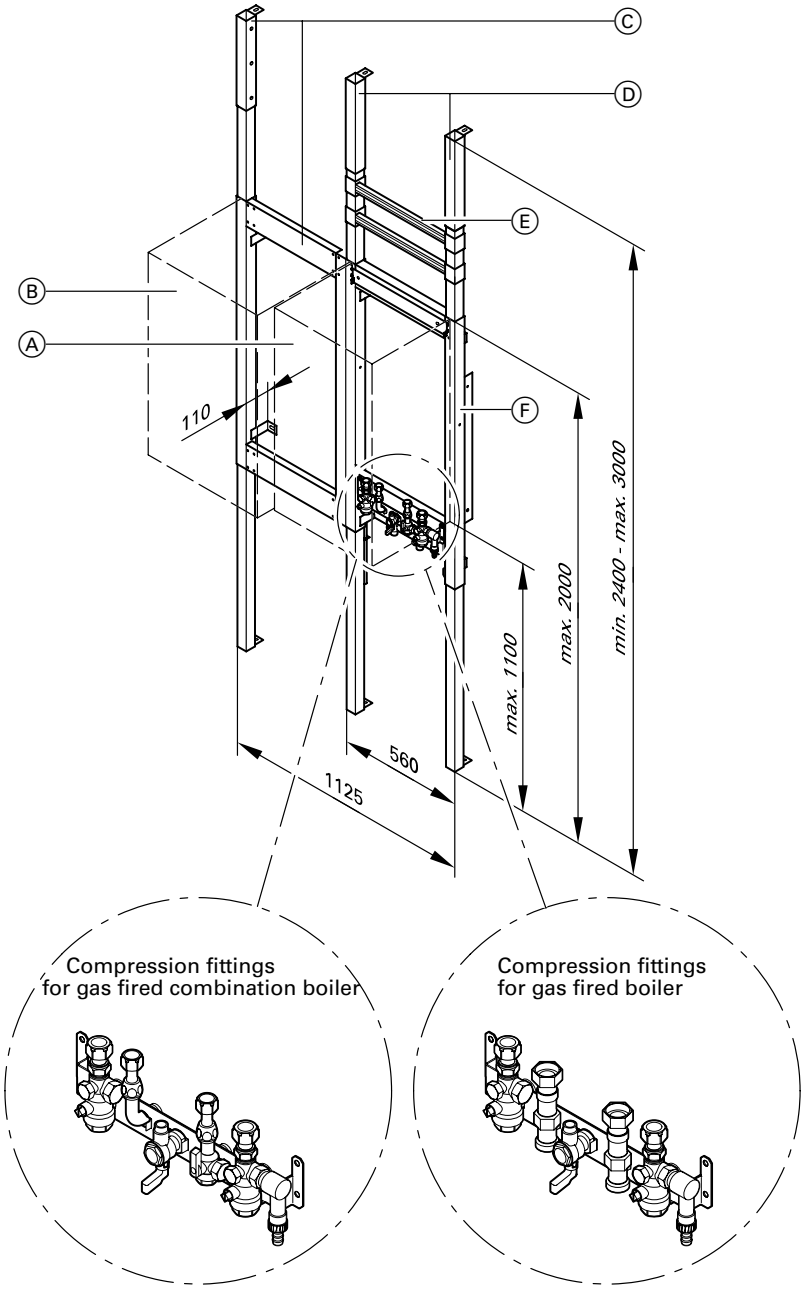
Installation on a wall mounting frame



Self-supporting mounting frame for Vitodens 200 to 35.0 kW
for Vitodens and wall mounted DHW cylinder (80 litres capacity).
Suitable for wall mounting, for self-supporting installation or for covering with various materials.
Incl. valves and gas angle valve R ½" with thermal safety shut-off valve.

- for gas fired combination boiler
  - with solder fittings
  - with compression fittings
- for gas fired boiler
  - with solder fittings
  - with compression fittings

Ⓐ Vitodens
Ⓑ Wall mounted DHW cylinder (80 litres capacity)
Ⓒ Self-supporting mounting frame for wall mounted DHW cylinders incl. ceiling fixing extension
Ⓓ Ceiling fixing extension (Vitodens)
Ⓔ Extension – on-site diaphragm expansion vessel
Ⓕ Self-supporting mounting frame for Vitodens incl. mounting bracket

Information regarding Vitodens 200 from 48.6 kW
Vitodens 200 with 48.6 and 66.3 kW can also be fitted to the self-supporting mounting frame.
The boiler stands 20 mm proud on both sides of the self-supporting mounting frame.
The mounting bracket cannot be used, and DHW cylinders to be installed adjacent to the boiler are unsuitable for Vitodens 200 with 48.6 and 66.3 kW.

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Electrical connection

Ensure the mains power connection complies with current regulations and meets the requirements of your local electricity supply company.
The mains power cable must be protected by a fuse with a maximum rating of 16 A.
Connect the mains (230 V~, 50 Hz) via a permanent connection.
Connect the supply cables and accessories at the terminal strips inside the boiler.

Mains electrical connection of accessories
The accessory mains supply can be connected directly to the control unit. This connection is controlled with the system ON/OFF switch (max. 3 A).
Where the boiler is installed in a wet area, the mains connection of accessories must not be carried out at the control unit.

Let cables inside the marked area (see diagrams) protrude 1200 mm from the wall.

Use the following cables:
NYM-J 3 × 1.5 mm^2 for mains power cables.

NYM with the required number of conductors for the external connections.

2-core cables for
- Adaptor connection extension
- Outside temperature sensor
- Vitotronic 050
- Extension kit for heating circuit with mixer
- External heating program changeover
- External blocking
- Central fault message
- F clock thermostat
- M clock thermostat
- Wall mounting plinth.

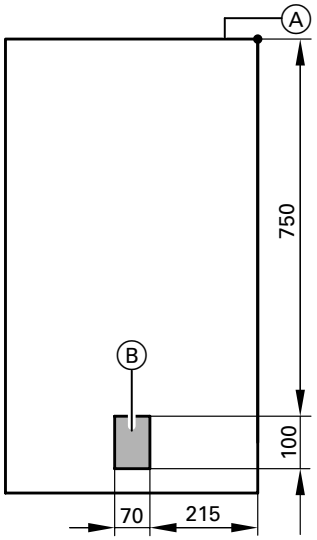
3-core cable for
- WS/RS remote control unit
- A clock thermostat
- DHW circulation pump.

Interlock switch

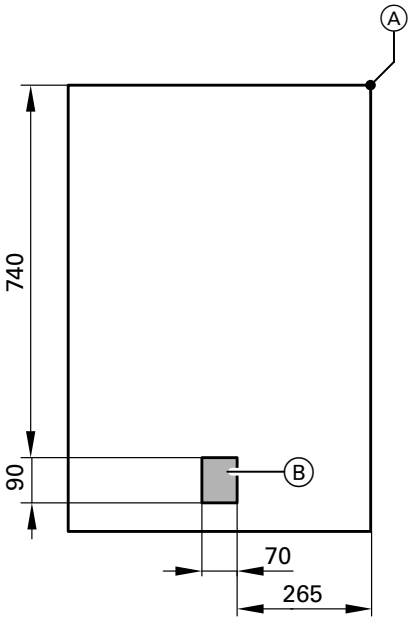
An interlock must be installed for open flue operation if an exhaust device (cooker hood, extractor fan, etc.) is fitted in the installation room.

For this, you can use the adaptor connection extension (accessory). This adaptor causes the exhaust air equipment to be switched OFF when the burner is switched ON (do not install the adaptor inside protection areas 1 or 2).

Vitodens 200, 4.5 to 35.0 kW



Vitodens 200, from 48.6 kW



Ⓐ Reference point Vitodens top edge
Ⓑ Area for electrical supply cables

Vitodens 200 (up to 35 kW) as replacement for third party boilers

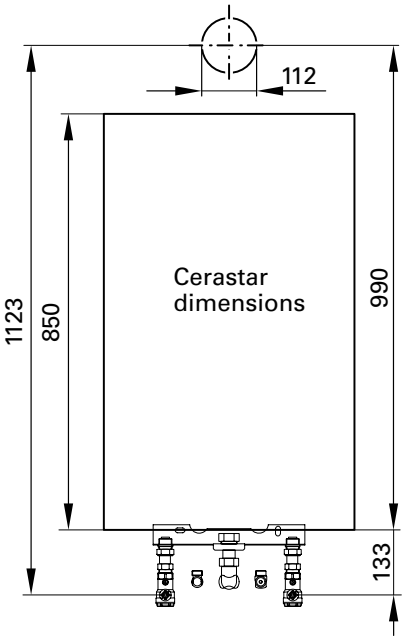
Using an adaptor, Vitodens may be connected to the water and flue pipe connections of Cerastar-ZR-/ZWR and Thermoblock-VC/-VCW.

For modernisation, adaptors with primary and secondary water connections and fixing parts are offered as accessories for replacing the following old devices made by third parties, with Vitodens (see price list). Replacing these devices with Vitodens will not lead to a higher installation effort than for the original equipment.

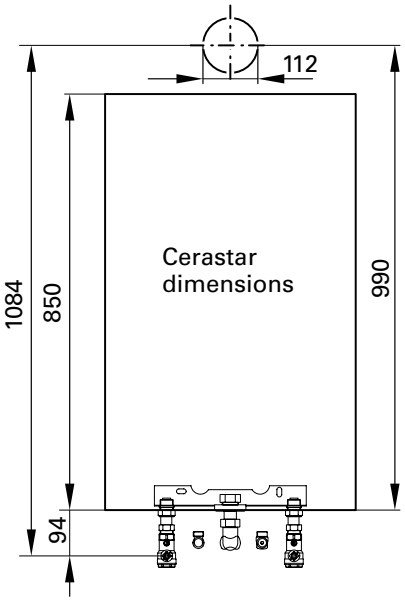
Generally, where a gas fired wall mounted boiler is replaced by a Vitodens 200 gas fired condensing boiler, the flue pipe must also be replaced with a system which is suitable for condensing operation (see price list for flue gas systems for Vitodens).
Match up the flue gas connections on site.

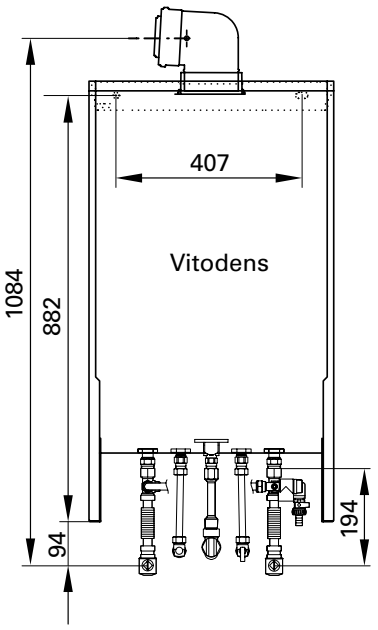
Replacing Cerastar-ZR/-ZWR

Open flue operation



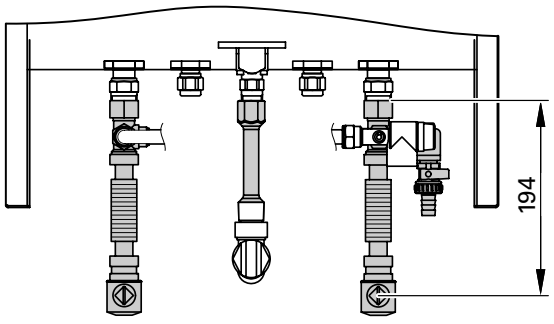
Balanced flue operation



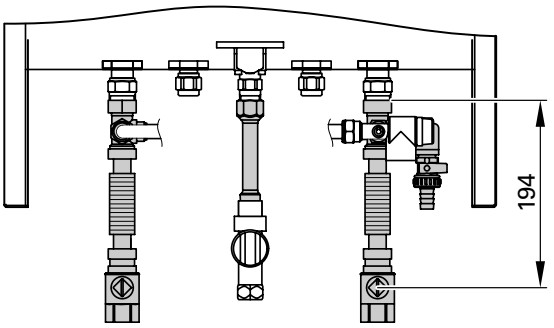


Existing water connections have identical dimensions.

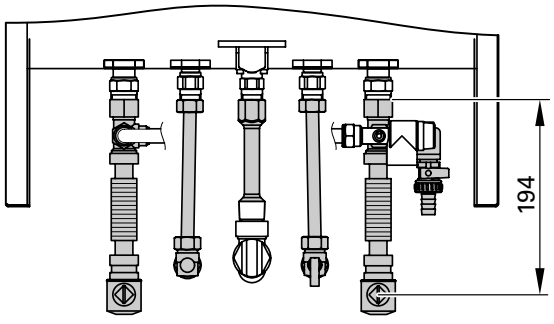
Installation on unfinished walls
Gas fired boiler



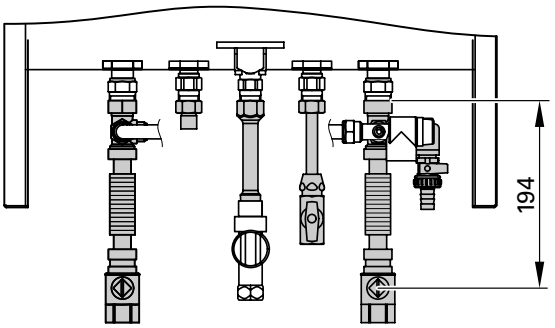
Installation on finished walls
Gas fired boiler



Gas fired combination boiler



Gas fired combination boiler



Standard delivery (incl. mounting rail)

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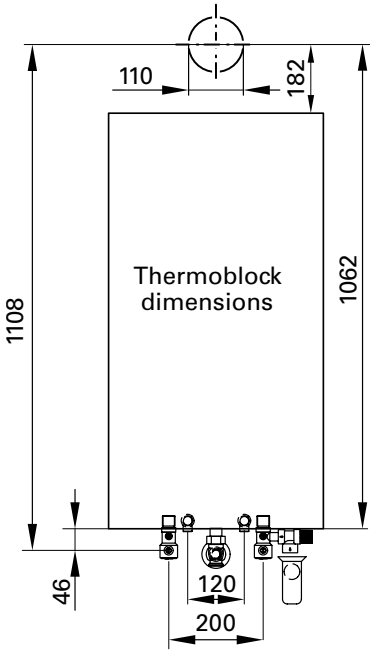
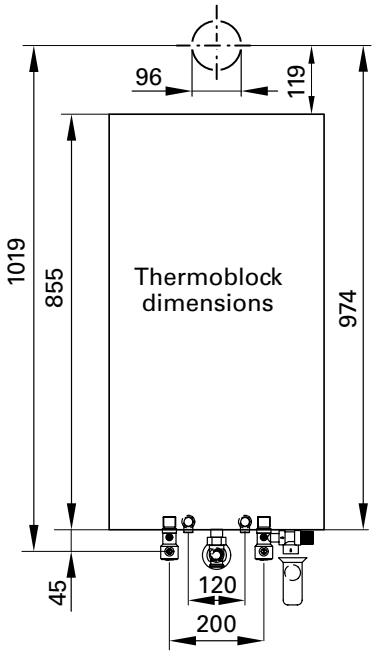
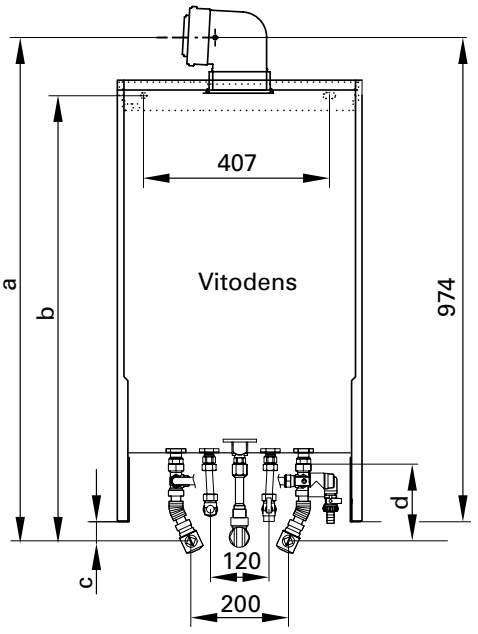
Replacing Thermoblock-VC/-VCW

Open flue operation



Balanced flue operation

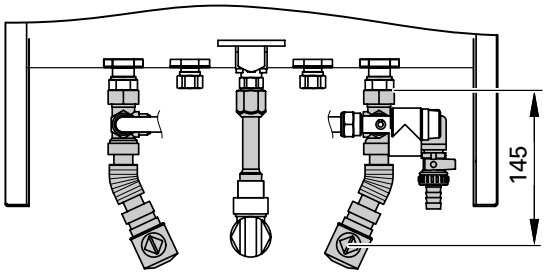




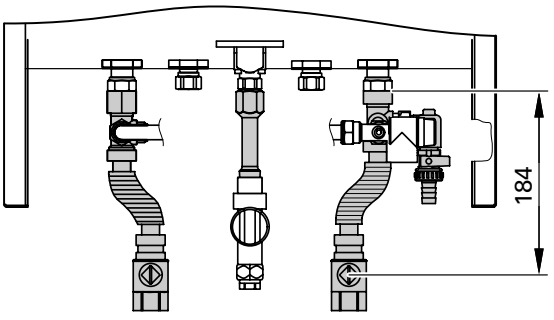
Existing water connections have identical dimensions.

Dimension	Installation on unfinished walls	Installation on finished walls
a mm	1019	1058
b mm	927	966
c mm	45	84
d mm	145	184

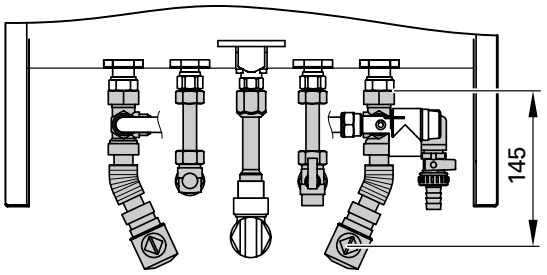
Installation on unfinished walls
Gas fired boiler



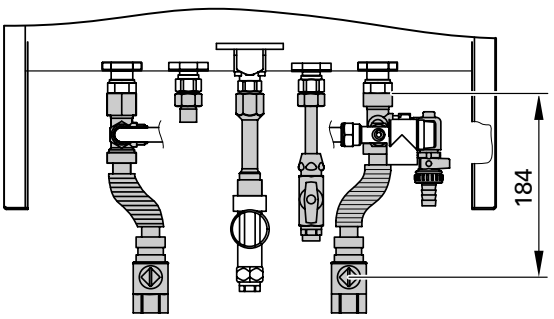
Installation on finished walls
Gas fired boiler



Gas fired combination boiler



Gas fired combination boiler



Standard delivery (incl. mounting rail)

5822 164 GB

Control unit for constant temperature mode

Integrated in Vitodens
- Electronic boiler control unit for operating Vitodens at a constant boiler water temperature
- An A, M or F clock thermostat is required for room temperature dependent mode
- Integrated diagnostic system
- Integral cylinder thermostat

Structure and functions

Construction

The control unit contains the following: System ON/OFF switch, emissions test switch, comfort switch (only for gas fired combination boilers), electronic high-limit thermostat, temperature limiter (DIN reg. no. DINTW 110898S, in the LGM29.XX burner control unit), digital display, micro computer, operating mode selector switch, rotary selectors for boiler water and DHW temperature, burner fault lamp, integral diagnostic system and fuses.

Specification

Rated voltage:	230 V~
Rated frequency:	50 Hz
Rated current:	4 A
Safety class:	I
Protection level:	IP X4D to EN 60529
Function:	Type 1B to EN 60730-1
Permissible ambient temperature	
■ in use:	0 to +40 °C Installation in living accommodation and boiler rooms (normal ambient conditions)
■ in storage and transport:	–20 to +65 °C
Electronic temperature limiter setting (heating mode):	82 °C (changeover not possible)
Electronic thermostat setting (DHW heating):	42 to 84 °C
Thermostat setting:	100 °C (changeover not possible)
Setting range for DHW temperature:	32 to 57 °C

Summer mode
Operating mode "⛱"

The burner starts only when the cylinder needs reloading (controlled by the cylinder thermostat).

Boiler temperature sensor

The boiler temperature sensor is connected to the control unit and built into the boiler.
Permissible ambient temperature
- in operation: 0 to +130 °C
- in storage and transport: –20 to + 70 °C

Please note:
When using a low loss header, a temperature sensor for the common flow should be installed downstream of the low loss header (see Vitodens Technical Guide).

Frost protection

The frost protection function is active in all heating programs.
The burner is switched ON when the boiler water temperature reaches 5 °C and will be switched OFF again when the boiler water temperature reaches 55 °C.
The circulation pump will be switched ON simultaneously with the burner and switched OFF after a delay.
To protect the system from frost, the circulation pump may, in addition to the burner, be run at certain intervals (up to 24 times per day) for periods of approx. 10 minutes at the time.

Cylinder temperature sensor

Standard delivery for
- Connection set for wall mounted DHW cylinders (80 litres) (order separately)
- Connection set for DHW cylinders installed below the boiler (120 or 150 litres) (order separately)
- Connection set for DHW cylinders installed adjacent to the boiler (160, 200 or 300 litres) or alternative DHW cylinders (order separately)
- Cylinder temperature sensor for Vitodens 200 from 48.6 kW, order separately (see price list).

Cable length approx. 3.75 m, wired ready to plug in
Protection: IP 32
Permissible ambient temperature
- in operation: 0 to +90 °C
- in storage and transport: –20 to +70 °C

5822 164 GB

Control unit for weather-compensated mode

Integrated in Vitodens
- Weather-compensated, digital boiler circuit control for Vitodens in modulating operating mode
- With standard programming unit or menu-guided Comfortrol programming unit
- Digital time switch for day and week programs, each with four programmable intervals per day for reduced mode, enabling DHW heating or enabling the DHW circulation pump
- Heating system frost protection
- Integrated diagnostic system
- Integral cylinder thermostat
- Screed drying program
- External start/blocking
- Heating circuit pump logic
- Supplementary DHW heating

Structure and functions

Modular construction

The control unit comprises a basic unit, electronic modules and a programming unit.
The control unit contains the following: System ON/OFF switch, emissions test switch, comfort switch (only gas fired combination boilers), electronic high limit thermostat, temperature limiter (DIN reg. no. DINTW 110898S, in the LGM29.XX burner control unit), micro computer, switching times adjustment options, temperatures in standard and reduced mode, DHW temperature, heating curve adjustment, temperature scanning, integral diagnostic system and fuses.

Boiler-specific functions

The control unit matches the boiler water temperature (= flow temperature of a directly connected heating circuit and/or a heating circuit with mixer combined with an extension kit for one heating circuit with mixer) automatically to the respective weather conditions. It offers a DHW thermostat with DHW priority (heating circuit pump OFF).

According to the Energy Savings Order [Germany], the temperature in each room must be individually controlled, e.g. through thermostatic radiator valves.

Specification

Rated voltage: 230 V~
Rated frequency: 50 Hz
Rated current: 4 A
Safety class: I
Protection level: IP X4D to EN 60529
Function: Type 1B to EN 60730-1
Permissible ambient temperature
- in operation: 0 to +40 °C

Installation in living accommodation and boiler rooms (normal ambient conditions)
- in storage and transport: –20 to +65 °C

Electronic temperature limiter setting (heating mode): 82 °C (changeover not possible)
Electronic thermostat setting (DHW heating): 42 to 84 °C
Thermostat setting: 100 °C (changeover not possible)
DHW temperature setting range
- with standard programming unit: 32 to 60 °C
- with Comfortrol programming unit: 10 to 60 °C

Setting range for heating curves
- Heating curve slope at
  - Standard programming unit: 0.2 to 2.6
  - Comfortrol programming unit: 0.2 to 3.5
- Heating curve level: –12 to +33 K

Standard programming unit

- Temperature and fault message display
- Coding using the programming unit.

Comfortrol programming unit

- Illuminated display with 8 text lines
- Menu-guided user assistance
- All settings, the most important codes and fault messages in plain text
- Holiday program
- Party key, to switch to standard mode at any time
- Economy key; the set room temperature will be reduced by approx. 2 °C in standard mode.

The programming units can be used as remote control units (wall mounting base, to be ordered separately).

Programming unit time switch

Digital time switch with day and week program, annual calendar and automatic summer/winter changeover.
Time, day and standard switching times are factory-set (individually programmable), max. four switching periods per day may be selected.
Shortest switching interval: 10 minutes
Power reserve: 5 years

Setting heating programs

The heating system frost protection*1 applies to all heating programs.
You can set the following heating programs with the program selection switch:
For standard programming unit
- Continuous standby
- Only DHW heating
- Standard mode/reduced mode or standard mode/standby
- Continuous standard mode
- Continuous reduced mode.

For the Comfortrol programming unit
- Continuous standby
- Only DHW heating
- Standard mode/reduced mode or standard mode/standby.

*1 *see frost protection.*

Frost protection

The frost protection function is active in all heating programs.
Frost protection will be
- switched ON when outside temperature falls below approx. +1 °C. During frost protection, the boiler circuit pump will be switched ON, and the boiler water is maintained at a lower temperature of approx. 20 °C.
- switched OFF when the outside temperature rises above approx. +3 °C.

Summer mode
Heating program "⛁"

The burner starts only when the cylinder needs reloading (controlled by the cylinder thermostat).

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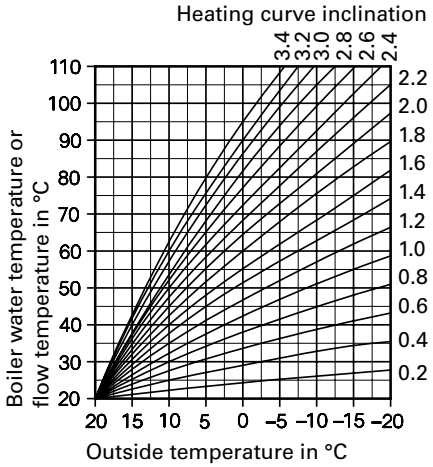
Heating curve adjustment (slope and level)

The control unit controls the boiler water temperature (= flow temperature of the heating circuit without mixer) **and** the flow temperature of the heating circuit with mixer (in conjunction with the extension kit for one heating circuit with mixer) subject to outside temperature. The flow temperature required to reach a certain room temperature depends on the heating system and the thermal insulation of the building to be heated. Adjusting both heating curves matches the boiler water temperature and the flow temperature to these operating conditions.

Heating curves:



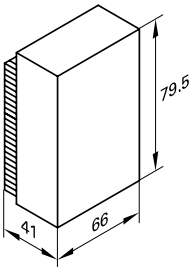
The upper boiler temperature is limited by the temperature limiter and the temperature set on the electronic maximum temperature limiter.
The flow temperature cannot exceed the boiler water temperature.

Boiler temperature sensor

The boiler temperature sensor is connected to the control unit for weather-compensated mode and is an integral part of the boiler.
Permissible ambient temperature
- in operation: 0 to +130 °C
- in storage and transport: –20 to + 70 °C

Please note:
When using a low loss header, a temperature sensor for the common flow should be installed downstream of the low loss header (see Vitodens Technical Guide).

Outside temperature sensor



Place of installation:
- North or north-west wall of the building
- 2 to 2.5 m above the ground; for multi-storey buildings approx. at the upper half of the second floor.

Connection:
- 2-core lead with a max. length of 35 m when using a cross-section of 1.5 mm^2 copper.
- Never route this lead immediately next to 230/400 V cables.

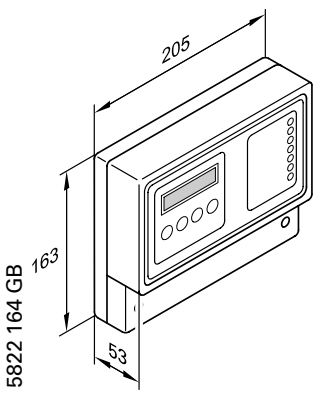
Protection: IP 43 to EN 60 529. Ensure through appropriate design and installation
Permissible ambient temperature for operation, storage and transport: –40 to +70 °C

Cylinder temperature sensor

Standard delivery for
- Connection set for wall mounted DHW cylinders (80 litres) (order separately)
- Connection set for DHW cylinders installed below the boiler (120 or 150 litres) (order separately)
- Connection set for DHW cylinders installed adjacent to the boiler (160, 200 or 300 litres) or alternative DHW cylinders (order separately)
- Cylinder temperature sensor for Vitodens 200 from 48.6 kW, order separately (see price list).

Approx. cable length 3.75 m, wired ready to plug in
Protection: IP 32
Permissible ambient temperature
- in operation: 0 to +90 °C
- in storage and transport: –20 to +70 °C

Cascade control unit part of the standard delivery of multi-boiler systems (see price list)
Only in conjunction with control unit for operation at a constant temperature.



5822 164 GB

Weather-compensated cascade control of up to 4 gas fired, wall mounted boilers with modulating operation via KM BUS. As overriding control unit (integrated) for constant temperature mode.

Wall mounted control unit
- Weather-compensated, digital cascade control unit for modulating operation of up to 4 gas fired wall mounted boilers.
- With control panel
- With automatic lead boiler selection control
- Digital time switch for day and week programming with two programmable intervals each per day for reduced mode
- Heating system frost protection
- Integrated diagnostic system
- Optional connection for Vitotronic 050 heating circuit control units via the Viessmann 2-wire BUS.

Structure and functions

Modular construction

The control unit comprises a basic unit with operator interface.
The control unit contains the following: Micro computer, optional settings for switching times, temperatures for standard and reduced mode, heating curve adjustment, temperature scanning, hours run meter and impulse counter for each wall mounted boiler, integral diagnostic system and mains supply cable.

Boiler-specific functions

The control unit automatically matches the common flow temperature of the wall mounted boilers to the prevailing weather conditions. It automatically starts the modulating operation of the wall mounted boilers. Automatic sequence change for wall mounted boilers.

According to the Energy Savings Order [Germany], the temperature in each room must be individually controlled, e.g. through thermostatic radiator valves.

Specification

Rated voltage: 230 V~
Rated frequency: 50 Hz
Power consumption: 6 W
Safety class: I
Function: Type 1B to EN 60730-1
Permissible ambient temperature
- in operation: 0 to +40 °C
  Installation in living accommodation and boiler rooms (normal ambient conditions)
- in storage and transport: –10 to +65 °C

Setting range for electronic flow temperature limiter: 1 to 100 °C
Setting range for heating curves
- Starting point of heating curve (outside temperature +20 °C)
  Low end: 1 to 30 °C
- End point of heating curve (outside temperature –10 °C)
  Design point: 1 to 100 °C

Control panel

- Temperature and fault message display
- Configuration via keys and display on the control panel
- Input of set values and periods.

Time switch

Digital time switch with day and week program, annual calendar and automatic summer/winter changeover.
Time, day and standard switching times are factory-set (individually programmable), max. two switching periods per day may be selected.
Shortest switching interval: 15 minutes
Power reserve: 3 years

Setting heating programs

The heating program is set via the time switch and allocated temperature levels. Party mode (constant heating) may be selected separately.

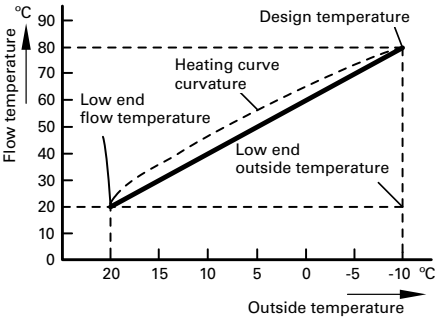
Frost protection

Frost protection will be
- switched ON when outside temperature falls below approx. +3 °C.
  The frost protection function maintains the boiler water at an adjustable temperature.
- switched OFF when the outside temperature rises above approx. +4 °C.

Setting heating curves

The control unit regulates the flow temperature of the wall mounted boilers subject to the prevailing weather.
The flow temperature required to reach a certain room temperature depends on the heating system and the thermal insulation of the building to be heated. Setting the heating curve matches the flow temperature to these conditions.

Heating curve:

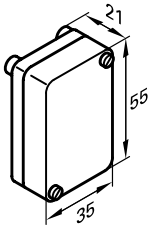


The upper limit of the boiler water temperature is restricted by the temperature limiter integrated into the control unit for operation of the gas fired wall mounted boiler for operation at a constant temperature and the temperature set on the electronic high-limit thermostat.
The flow temperature cannot exceed the boiler water temperature.

Flow temperature sensor (NTC)

The sensor for the common flow is connected to the cascade control and is installed into the common flow.
Permissible ambient temperature
- in operation: 0 to +130 °C
- in storage and transport: –20 to + 70 °C

Outside temperature sensor (NTC)



Place of installation:
- North or north-westerly wall of the building
- 2 to 2.5 m above the ground; for multi-storey buildings approx. at the upper half of the second floor.

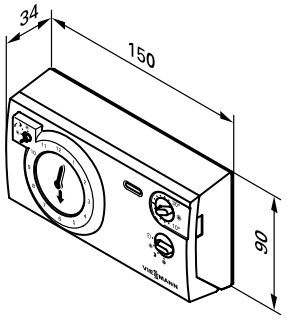
Connection:
- 2-wire cable, length max. 35 m when using a cross-section of 1.5 mm^2 (copper).
- Do not run the cable immediately next to 230/400 V cables.

Protection: IP 43
Permissible ambient temperature for operation, storage and transport: –40 to +70 °C

5822 164 GB

Control unit accessories for constant temperature mode

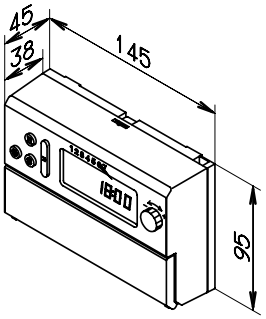
A clock thermostat
with switched output (two-point output), part no. 9544 556



Room thermostat with adjustable day program.
Standard switching times are factory-set (individually programmable), shortest switching interval 15 minutes.
Install the A clock thermostat in the main living room on an internal wall opposite radiators, but not inside shelf units, niches, immediately by a door or a heat source (e.g. direct sunlight, fireplace, TV set, etc.).
Control unit connection:
3-core with a cross-section of 0.75 mm^2.

Rated voltage:	24 V–
Rated breaking capacity of zero-volt contact:	10 mA 24 V~/–
Protection:	IP 20 to EN 60529
Permissible ambient temperature	
■ during operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Setting range for set values for standard and reduced mode:	10 to 30 °C
Set room temperature in standby mode:	6 °C

F clock thermostat
with switched output (two-point output), part no. 7450 023

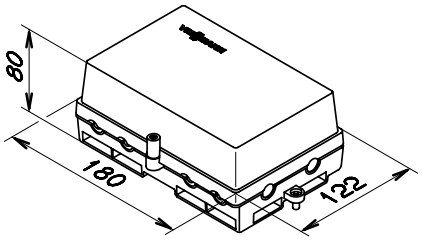


Room thermostat with adjustable day and week program.
Time, day and standard switching times are factory-set (individually programmable), max. four switching periods per day may be selected.
Install the F clock thermostat in the main living room on an internal wall opposite radiators, but not inside shelf units, niches, immediately by a door or a heat source (e.g. direct sunlight, fireplace, TV set, etc.).
Operation without mains power supply (two 1.5 V round cells, run time approx. 2 years).
Control unit connection:
2-core with a cross-section of 0.75 mm^2.

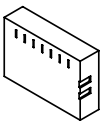
Rated voltage:	3 V–
Zero-volt contact rating:	6(4) A 250 V~
Protection:	IP 20 to EN 60529
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Setting range for set values for standard mode and reduced mode:	5 to 35 °C
Set room temperature in standby mode:	5 °C

Radio data transfer,
part no. 7450 021
comprising a radio transmission and receiver module.
Only in conjunction with an F clock thermostat.

Radio data receiver



Transmission module

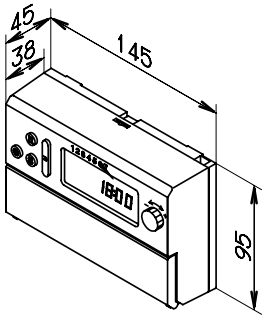


For transferring control information by radio signals.
Install the radio data receiver near the control unit; the transmitter module is plugged into the F clock thermostat (minimum distance between the radio data receiver and the clock thermostat 1.5 m).
Never install the radio data transmitter into the protective areas 0 to 3.
The radio data transmission enables the clock thermostat to be independently installed as well as an economic and simple installation through savings in cabling to the F clock thermostat.
Transmission can extend over two floor levels. Up to 10 radio data transfer units (transmitters and receivers) can be used simultaneously.
The range can be limited by metallic materials in the building structure (e.g. steel-reinforced concrete, steel doors).
Transmission faults can be caused by sources of electromagnetic interference (e.g. HV power lines, domestic appliances).
Control unit connection:
2-core with a cross-section of 0.75 mm^2.

Rated voltage:	230 V~
Rated frequency:	50 Hz
Power consumption:	2.5 W
Zero-volt contact rating:	6(4) A 250 V~
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Transmission frequency:	433.92 MHz
Protection:	IP 20 to EN 60529

M clock thermostat
with analog output (constant control),
part no. 7450 024

Contrary to the F clock thermostat, the M clock thermostat corrects the boiler water temperature via its analog output if the room temperature deviates from the set value.
This leads to greater control accuracy for the room temperature and reduced burner switching frequency.



Room thermostat with adjustable day and week program.
Time, day and standard switching times are factory-set (individually programmable), max. four switching periods per day may be selected.
Install the M clock thermostat in the main living room on an internal wall opposite radiators, but not inside shelf units, niches, immediately by a door or a heat source (e.g. direct sunlight, fireplace, TV set, etc.).
Operation without mains power supply (two 1.5 V round cells, run time approx. 2 years).
Control unit connection:
2-core with a cross-section of 0.75 mm^2.

Rated voltage:	3 V–
Protection:	IP 20 to EN 60529
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Setting range for set values for standard mode and reduced mode:	5 to 35 °C
Set room temperature in standby mode:	5 °C
Terminal voltage at the output:	< 15 V
Max. permissible current:	30 mA
Resistance:	255 to 335 Ω

Radio clock module,
part no. 7450 022

For receiving the DCF 77 time signal.
Radio controlled setting of time and date.
The radio clock module is plugged into the F or M clock thermostat.

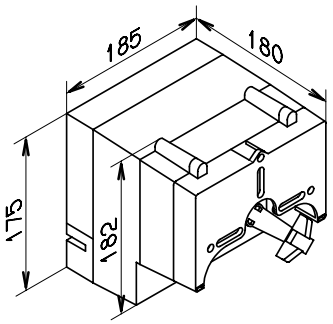
Adaptor (connection extension),
part no. 7404 582

Using the adaptor, one of the following functions can be achieved:
Up to 2 adaptors may be connected.
- Connection of an external safety solenoid valve (LPG).
- Interlocking external exhaust fans. Install an interlock if an exhaust device (cooker hood, extractor fan, etc.) is connected with the room providing combustion air for Vitodens 200.
- Connection of a heating circuit pump (stepped); only for gas fired boilers.
- Connection of a central fault message.

Control unit accessory for weather-compensated mode

Extension kit for one heating circuit with mixer,
part no. 7450 058

Mixer regulator

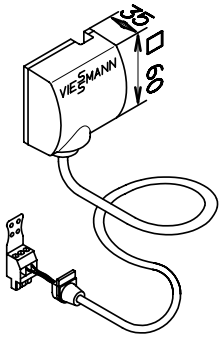


The mixer regulator is mounted directly on the Viessmann mixer DN 20 to 50 and R ½" to 1¼".
The mixer regulator is a motorised control unit. The rotational direction may be reversed.
With connection plug for heating circuit pump, flow temperature sensor (contact sensor), mains and BUS connection.

Rated voltage:	230 V~
Rated frequency:	50 Hz
Rated current:	4 (2) A
Power consumption:	7.5 VA
Safety class:	⧈
Test class:	II
Protection:	IP 32 to EN 60529
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Relay output rating for heating circuit pump 20:	4(2) A 230 V~

Motor:	
Torque:	3 Nm
Run time for 90° ∢:	2 minutes
Dead zone of the PI controller at an inclination of 1.4:	±1.2 K

Flow temperature sensor (contact sensor)

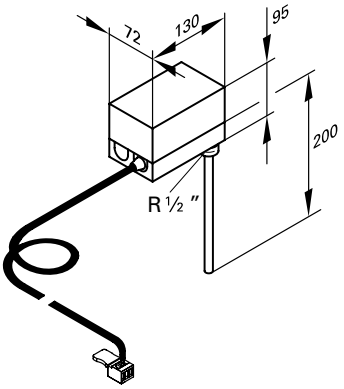


Secured with a tie.
Cable length approx. 2 m, wired ready to plug in

Protection:	IP 32
Permissible ambient temperature	
■ in operation:	0 to +100 °C
■ in storage and transport:	–20 to + 70 °C

Expansion module, Viessmann 2-wire BUS,
part no. 7144 549
for connection of one heating circuit control unit Vitotronic 050, Vitocom 200, Vitocom 300 or Solartrol.
Comprising one printed circuit board.

Immersion thermostat
As temperature limiter for limiting the max. temp. of underfloor heating systems,
part no. 7151 728

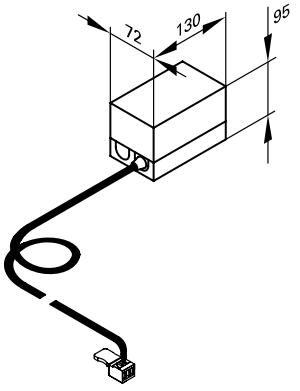


The temperature limiter is installed into the heating flow and switches the heating circuit pump OFF if flow temp. is too high.
With connecting cable (approx. 4 m long) and system plug.

Setting range:	0 to 80 °C
Switching differential:	max. 11 K
Breaking capacity:	6(1.5) A 250 V~
Setting scale:	inside casing
Stainless steel sensor well:	R ½" × 200 mm
DIN reg. no:	DIN TR 77798 or DIN TR 96898 or DIN TR 110302

or

Contact thermostat
As temperature limiter for limiting the max. temp. of underfloor heating systems,
part no. 7151 729
(only in conjunction with metallic pipes)



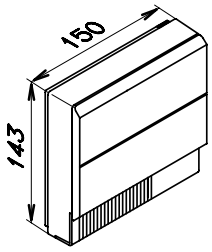
The temperature limiter is installed into the heating flow and switches heating circuit pump OFF if the flow temp. is too high.
With connecting cable (approx. 4 m long) and system plug.

Setting range:	0 to 80 °C
Switching differential:	max. 14 K
Breaking capacity:	6(1.5) A 250 V~
Setting scale:	inside casing
DIN reg. no:	DIN TR 77798 or DIN TR 96898 or DIN TR 110302

Note on room temperature hook-up (RS function) when using remote control units

Because of the inertia of underfloor heating systems, the RS function must not control an underfloor heating circuit.

Wall mounting base with dummy cover,
part no. 7148 913
(if the programming unit of the control unit should be used as remote control)



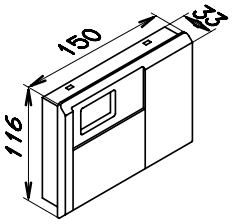
All programming unit functions may be used.
WS function: Installation at any point in the building.
RS function: Install the remote control unit in the main living room on an internal wall opposite radiators, but not inside shelf units, niches, immediately by a door or a heat source (e.g. direct sunlight, fireplace, TV set, etc.).
Connection:
- 2-core lead with a max. length of 30 m when using a cross-section of 1.5 mm^2 copper.
- Never route this lead immediately next to 230/400-V cables.

Permissible ambient temperature
- in operation: 0 to +40 °C
- in storage and transport: –20 to +65 °C

Radio clock module,
part no. 7450 022

For receiving the DCF 77 time signal.
Radio controlled setting of time and date.
The radio clock module is plugged into the wall mounting base.

Display unit,
part no. 7450 160

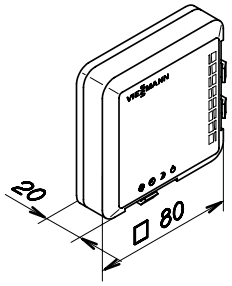


For insertion into the control unit for weather-compensated mode, if the programming unit of the control unit is used as remote control.
Boiler water temperature and fault message display.

Temperature sensor for low loss header,
part no. 7819 601

As flow temperature sensor for the common flow when using a low loss header.
May be secured with a tie.
Cable length approx. 3.75 m, wired ready to plug in
Protection: IP 32
Permissible ambient temperature
- in operation: 0 to +90 °C
- in storage and transport: –20 to +70 °C

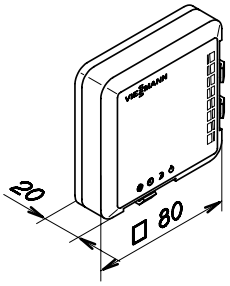
WS remote control unit,
part no. 7450 027



From any room in your home, the remote control sets the required temperature for one heating circuit in standard mode (day temperature) or reduced mode (night temperature).
Only one remote control unit can be connected. If a heating circuit with mixer is installed, the remote control unit will control that heating circuit.
Connection:
- 3-core cable (excl. green/yellow core), max. length 30 m when using a cross-section of 1.5 mm^2 (copper).
- Never route this lead immediately next to 230/400-V cables.

Safety class:	III
Protection:	IP 30
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Room temperature setting range	
■ Locking switch "☀":	14 to 26 °C
■ Locking switch "☽":	7 to 23 °C
Set room temperature at selector setting "⏻":	3 to 5 °C

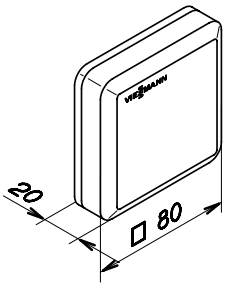
RS remote control unit,
part no. 7450 028



From the main living room (control room) in your home, the remote control sets the required temperature for one heating circuit during standard mode (day temperature) and reduced mode (night temperature).
The integral room temperature sensor records the actual room temperature and effects any necessary flow temperature corrections.
Only one remote control unit can be connected. If a heating circuit with mixer is installed, the remote control unit will control that heating circuit.
Install the remote control unit in the main living room on an internal wall opposite radiators, but not inside shelf units, niches, immediately by a door or a heat source (e.g. direct sunlight, fireplace, TV set, etc.).
Connection:
- 3-core cable (excl. green/yellow core), max. length 30 m when using a cross-section of 1.5 mm^2 (copper).
- Never route this lead immediately next to 230/400-V cables.

Safety class:	III
Protection:	IP 30
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C
Room temperature setting range	
■ Locking switch "☀":	14 to 26 °C
■ Locking switch "☽":	7 to 23 °C
Set room temperature at selector setting "⏻":	3 to 5 °C

Room temperature sensor,
part no. 7408 012



Separate room temperature sensor as supplement to the RS remote control device; to be used if the RS remote control device cannot be installed inside the main living room or in a suitable position where the actual temperature can be reliably measured or controlled.
Install the room temperature sensor in the main living room on an internal wall opposite radiators, but not inside shelf units, niches, immediately by a door or a heat source (e.g. direct sunlight, fireplace, TV set, etc.).
The room temperature sensor should be connected to the RS remote control unit.
Connection:
- 2-core cable with a cross-section of 1.5 mm^2.
- The cable run between the control unit, the remote control unit and the room temperature sensor must not exceed 30 m.
- Never route this lead immediately next to 230/400-V cables.

Safety class:	III
Protection:	IP 30
Permissible ambient temperature	
■ in operation:	0 to +40 °C
■ in storage and transport:	–20 to +65 °C

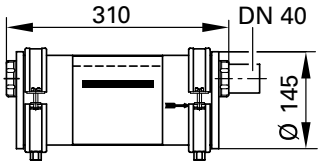
Adaptor (connection extension),
part no. 7404 582

Using the adaptor, one of the following functions can be achieved:
Up to 2 adaptors may be connected.
- Connection of an external safety solenoid valve (LPG).
- Interlocking external exhaust fans. Install an interlock if an exhaust device (cooker hood, extractor fan, etc.) is connected with the room providing combustion air for Vitodens 200.
- Connection of a DHW circulation pump.
- Connection of a heating circuit pump (stepped).
- Connection of a central fault message.

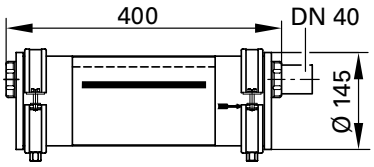
5822 164 GB

Vitodens 200 accessories

Neutralising system
for single boiler systems
with neutralising system
for Vitodens 200 to 35.0 kW
Part no. 7252 666

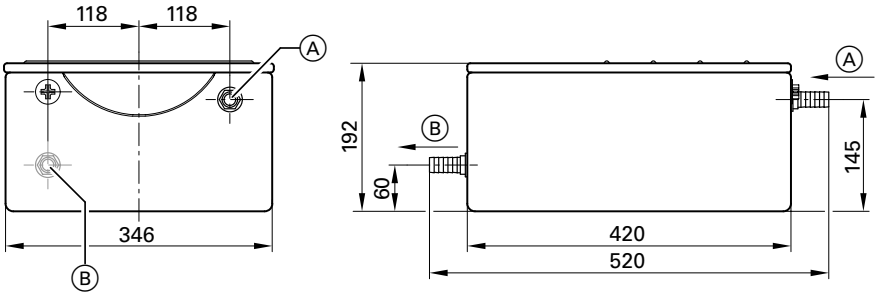


for Vitodens 200 with 48.6 and 66.3 kW
Part no. 9535 742



Neutralising granulate
(2 × 1.3 kg)
Part no. 9524 670

Neutralising system
for multi-boiler systems
Part no. 7226 141



Ⓐ Inlet (DN 20)
Ⓑ Outlet (DN 20)

Neutralising granulate (8 kg)
Part no. 9521 702

Safety equipment to DIN 1988
DN 15 (for DHW cylinders up to
200 litres capacity)
comprising:
- Shut-off valve
- Non-return valve and test nipple
- Pressure gauge connector
- Diaphragm safety valve 10 bar

Part no. 7219 722

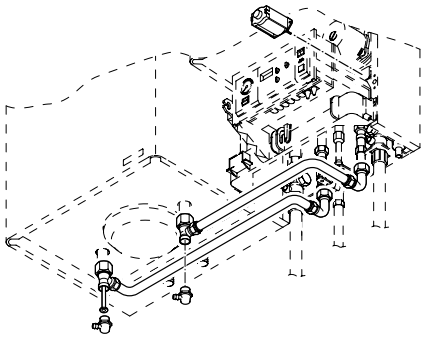
The safety assembly is part of the standard delivery for the connection set for Vitocell-W 100 with 120 and 150 litres capacity for installation on unfinished walls.

Installation accessories for Vitodens 200 (up to 35 kW)

Connection between Vitodens 200 and the DHW cylinder

Connection set for wall mounted DHW cylinder Vitocell-W 100
comprising:
- Cylinder temperature sensor
- Drive for three-way valve, ready to plug in
- Primary connection pipes with air vent valves

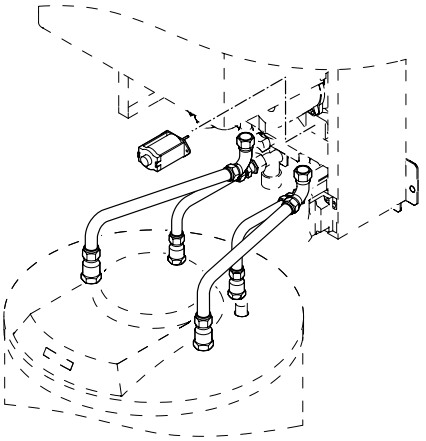
Installation on finished walls
DHW cylinder installed either on the **l.h. or the r.h. side** of Vitodens 200
Part no. 7147 056



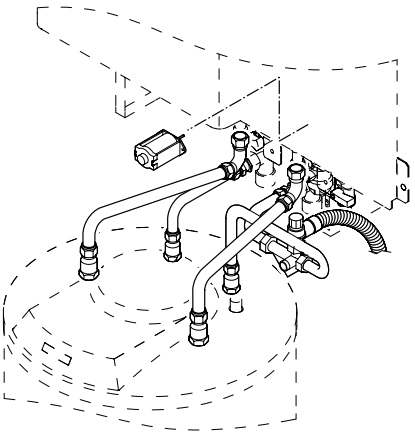
Connection set for DHW cylinder Vitocell-W 100 installed below boiler incl. connection pipes
comprising:
- Cylinder temperature sensor
- Drive for three-way valve (ready to plug in)
- Heating water connection pipes
- Secondary side connections

– Installation on finished walls
Part no. 7147 061
– Installation on unfinished walls
Part no. 7147 059

Installation on finished walls
(without safety equipment)

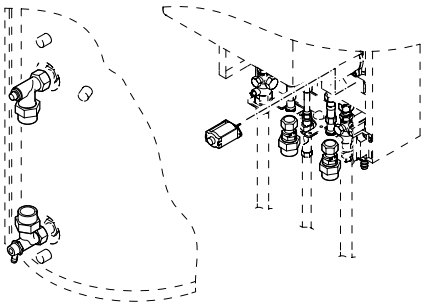


Installation on unfinished walls
(with safety equipment)



Connection set for Vitocell-W 100 and 300 DHW cylinder installed adjacent to boiler
comprising:
- Cylinder temperature sensor
- Drive for three-way valve (ready to plug in)
- Compression fittings (Rp ¾")

DHW cylinder installed either on the **l.h. or the r.h. side** of Vitodens
– with compression fittings
Part no. 7147 616
– with solder fittings
Part no. 7147 615



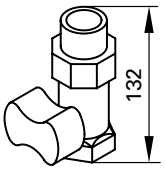
Safety equipment to DIN 1988
DN 15 (for DHW cylinders up to 200 litres capacity)
comprising:
- Shut-off valve
- Non-return valve and test nipple
- Pressure gauge connector
- Diaphragm safety valve 10 bar

Part no. 7219 722

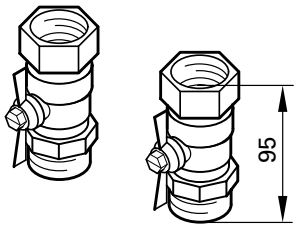
5822 164 GB

Accessories for the installation of Vitodens 200 with 48.6 and 66.3 kW

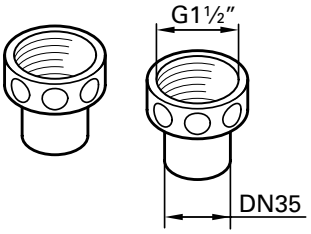
Straight-through gas valve R ¾″
with integral thermal safety shut-off valve
Part no. 7341 019



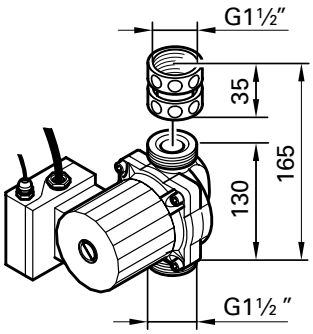
Shut off valves
Set of ball shut-off valves (2 pieces)
G 1½″
Part no. 7341 020



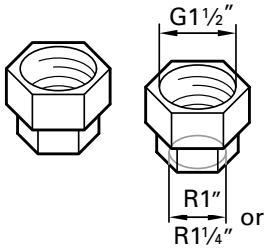
Solder fittings (1 set) G 1½″ - DN 35
incl. gasket
Part no. 7339 921



Heating circuit pump (variable speed)
incl. check valve
Part no. Z000 635



Compression fittings (1 set)
incl. gasket
- G 1½″ - R 1″
  Part no. 7307 293
- G 1½″ - R 1¼″
  Part no. 7205 935



5822 164 GB

As delivered condition

Vitodens 200 (up to 35 kW)

Gas fired condensing boiler with Inox-Radial heating surface, modulating MatriX-compact gas burner for natural gas and LPG to DVGW Code of practice G260, aqua-plate with multi-connect plug-in system and variable speed heating circuit pump.
Fully plumbed and wired.

Colour of the epoxy-coated casing:
- White

or (subject to order)
- Vitosilver

or
stainless steel casing.

For combination boilers 6.6 to 26.3 kW:
Standby plate heat exchanger for DHW heating.
Packed separately:
Control unit for constant temperature mode
or
Control unit for weather-compensated mode with standard programming unit
or
Comfortrol programming unit

Natural gas version

Vitodens 200 is factory-set for natural gas E.
A conversion kit is supplied to order for natural gas LL.
Conversion to LPG is not possible.

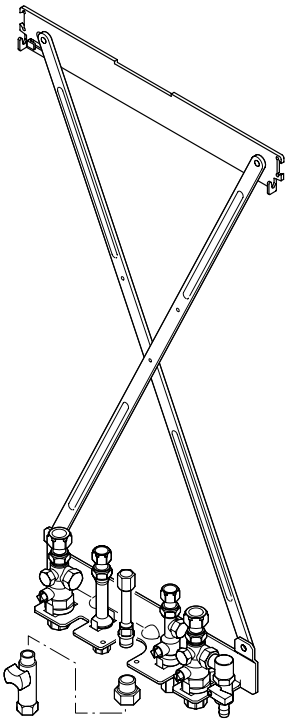
LPG version

Vitodens 200 is factory-set for LPG and may be converted to natural gas.

Accessories required subject to installation method (order separately)

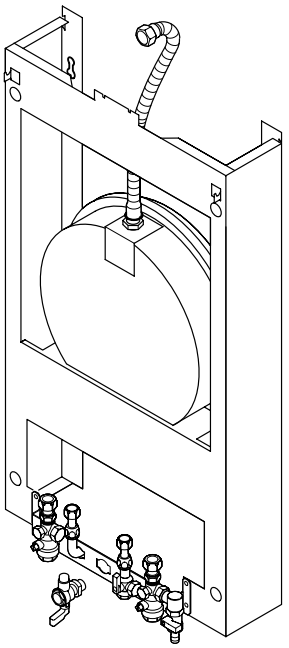
Vitodens installation directly on a wall
Installation template with:
- Fixing components
- Fittings
- Gas stop cock R ½" incl. thermal safety shut-off valve.

For installation on finished or unfinished walls with compression or solder fittings.



or with mounting frame
Mounting frame (depth 130 mm) with:
- Diaphragm expansion vessel (11 litres, ∅ 400 mm)
- Fittings
- Fixing elements
- Boiler fill and drain valve
- Angle valve with thermal safety shut-off valve

For installation on finished or unfinished walls with compression or solder fittings.



Vitodens 200 (from 48.6 kW)

Gas fired condensing boiler with Inox-Radial heating surface, modulating MatriX-compact gas burner for natural gas and LPG to DVGW Code of practice G260, and aqua-plate with multi-connect plug-in system.
Fully plumbed and wired.

Colour of the epoxy-coated casing: white.

Packed separately:
Control unit for constant temperature mode
or
Control unit for weather-compensated mode with standard programming unit
or
Comfortrol programming unit

Multi-boiler systems

Multi-boiler systems for open flue operation with 2, 3 or 4 boilers with
- flue gas cascade, comprising:
  - Non-return valve
  - Flue pipe
  - End piece with condensate drain

and
- weather-compensated cascade control.

Natural gas version

Vitodens 200 is factory-set for natural gas E.
A conversion kit is supplied to order for natural gas LL.
Conversion to LPG is not possible.

LPG version

Vitodens 200 is factory-set for LPG and may be converted to natural gas.
Gas governor integrated into the equipment.

Please note:
Order circulation pumps for heating circuit and DHW loading separately.

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Design notes

Positioning

- Do not use where air is polluted with halogenated hydrocarbons (e.g. as in aerosols, paints, solvents and cleaning agents)
- Avoid very dusty conditions
- Avoid high levels of humidity
- Prevent freezing and ensure good ventilation

Otherwise, the system may suffer faults and damage.

In rooms where **air contamination through halogenated hydrocarbons** can occur, such as hairdressing salons, printing shops, chemical cleaners, laboratories, etc., Vitodens 200 may only be installed if adequate measures can be taken to provide a supply of uncontaminated combustion air.
If in doubt, please contact us.

If these instructions are not observed, any consequential loss directly related to any of these causes will be excluded from our warranty.

Vitodens 200 (up to 48.6 kW) for balanced flue operation

As device type C_{13x}, C_{33x}, C_{43x}, C_{53x} or C_{63x} to TRGI '86/96, Vitodens 200 can be installed for **balanced** flue operation, **irrespective** of size and ventilation of the boiler room.
It may, for example, be installed in rooms with personnel traffic or in accommodation rooms, in ancillary rooms without ventilation, in cupboards and niches without maintaining minimum clearances to combustible components as well as in attic rooms (pitched attics and long pane rooms of a roof) where the balanced flue air supply/exhaust pipe can be directly routed through the roof.

Vitodens 200 with 66.3 kW
Install Vitodens 200 with 66.3 kW in accordance with local regulations in a separate boiler room. Fit the mains electrical isolator outside the boiler room.

Vitodens 200 in open flue operation
(type B_{23} and B_{33})

Installation is only permissible if a direct ventilation aperture (which cannot be closed) with a clear cross-section of at least 150 cm^2 is provided (to TRGI '86/96). Installation in living areas or other accommodation is **not** possible (exception: operation in areas with interconnected room air supply).
Secure Vitodens 200 near the chimney stack/duct.

Flue gas systems

The plain flue pipe must be type approved by the Deutschen Institut für Bautechnik (DIBt) (**open** flue operation).

Viessmann balanced flue systems for **balanced** flue operation
- vertical roof outlet,
- external wall terminal,
- horizontal roof outlet,
- separate ventilation and flue gas pipes,
- outside panel outlet as dual pipe design

are tested and CE designated together with Vitodens as one structural unit in accordance with DVGW.
Balanced flue system components in accordance with approval certificate Z 7.21004 can be used for connection to a new or existing LAS chimney.
For detailed descriptions of the flue gas system, see Vitodens Technical Guide.

Flue gas temperature protection

Viessmann balanced flue systems for **balanced** flue operation
- vertical roof outlet,
- external wall terminal,
- horizontal roof outlet,
- separate ventilation and flue gas pipes,
- outside panel outlet as dual pipe design

are tested and CE-designated together with Vitodens 200 as one structural unit, in accordance with DVGW.
If a different flue pipe is used on site, ensure connection in accordance with the Directive for approval of flue gas systems with low temperature flue gas. For Vitodens 200, these are flue pipes type B (max. permiss. flue gas temperature 120 °C).

Flue gas temperature protection is not required, as the maximum permissible flue gas temperature will not be exceeded under any operating conditions or during faults.

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Selection of rated output

Select the boiler according to the required heat demand, including DHW demand. The rated output of condensing boilers may be higher than the calculated heat demand of the building in question.

The standard efficiency of condensing boilers remains constant over a wide range of boiler loads. It remains almost unchanged even if the heat output is twice as high as the heat demand.

System design

- The boiler water temperature is limited to 75 °C.
  To minimise distribution losses, we recommend that you size the heat distribution system and the DHW heating system for a max. flow temperature of 70 °C.
- Depending on local regulations, the installation of a condensing boiler may need to be notified or authorised.
- If possible, install no mixing devices in heating circuits, because the utilisation of condensing technology demands low return temperatures. Use only three-way mixers if mixers are required, e.g. for multi-circuit or underfloor heating systems.

Safety equipment

According to DIN 4751-2, these boilers must be equipped with a type-tested safety valve
- for hot water heating systems up to 100 °C flow temperature and
- for hot water heating systems up to 120 °C flow temperature

and according to their type approval, with a type-tested safety valve.
This valve should be identified in accordance with TRD 721, i.e. with
- "H" up to 3.0 bar permissible operating pressure and a max. 2700 kW rated output,
- "D/G/H" for all other operating conditions.

Underfloor heating

For underfloor heating, we recommend the use of impermeable pipes to prevent the infusion of oxygen through the pipe walls. Provide system separation in underfloor heating systems for plastic pipes (DIN 4726) which are not impermeable to oxygen. We supply separate heat exchangers for this purpose.

Connect underfloor heating systems and heating circuits with very large water content to the boiler via a three-way mixer. See Technical Guide on control of underfloor heating systems or Vitodens Technical Guide.

Install a temperature limiter into the underfloor heating circuit to limit the maximum temperature.
Observe DIN 18560-2.

Plastic pipe systems for radiators

We also recommend the installation of a temperature limiter to limit the maximum temperature for plastic heating pipework in heating circuits with radiators.

Low water indicator

According to DIN 4751-2, a special low water level protection can be omitted for boilers up to 350 kW, as long as heating can be reliably prevented when the water level is too low.
Viessmann Vitodens 200 are equipped with a low water indicator (boil-dry protection). Tests have verified that the burner will be automatically switched OFF in the event of water shortage due to a leak in the heating system, before the boiler or flue gas system reaches unacceptably high temperatures.

Notification

Within four weeks of the initial commissioning, the operator may need to notify the local chimney sweep accordingly (check local regulations).

Condensate and neutralisation

See Vitodens Technical Guide.

Additional requirements when installing boilers with liquid gas operation in rooms below ground level

According to TRF 1996 volume 2 – valid since 1 September 1997 – an external safety solenoid valve is no longer required when installing Vitodens 200 boilers below ground level.
However, the high safety standard derived from the use of an external safety solenoid valve has proved to be valuable. We therefore recommend the continued installation of an external safety solenoid valve when installing Vitodens 200 in rooms below ground level.

Technical guide

For further details regarding the design and sizing, see Vitodens Technical Guide.

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Subject to technical modifications.

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